Gleanings in BEE CULTURE

October 1959

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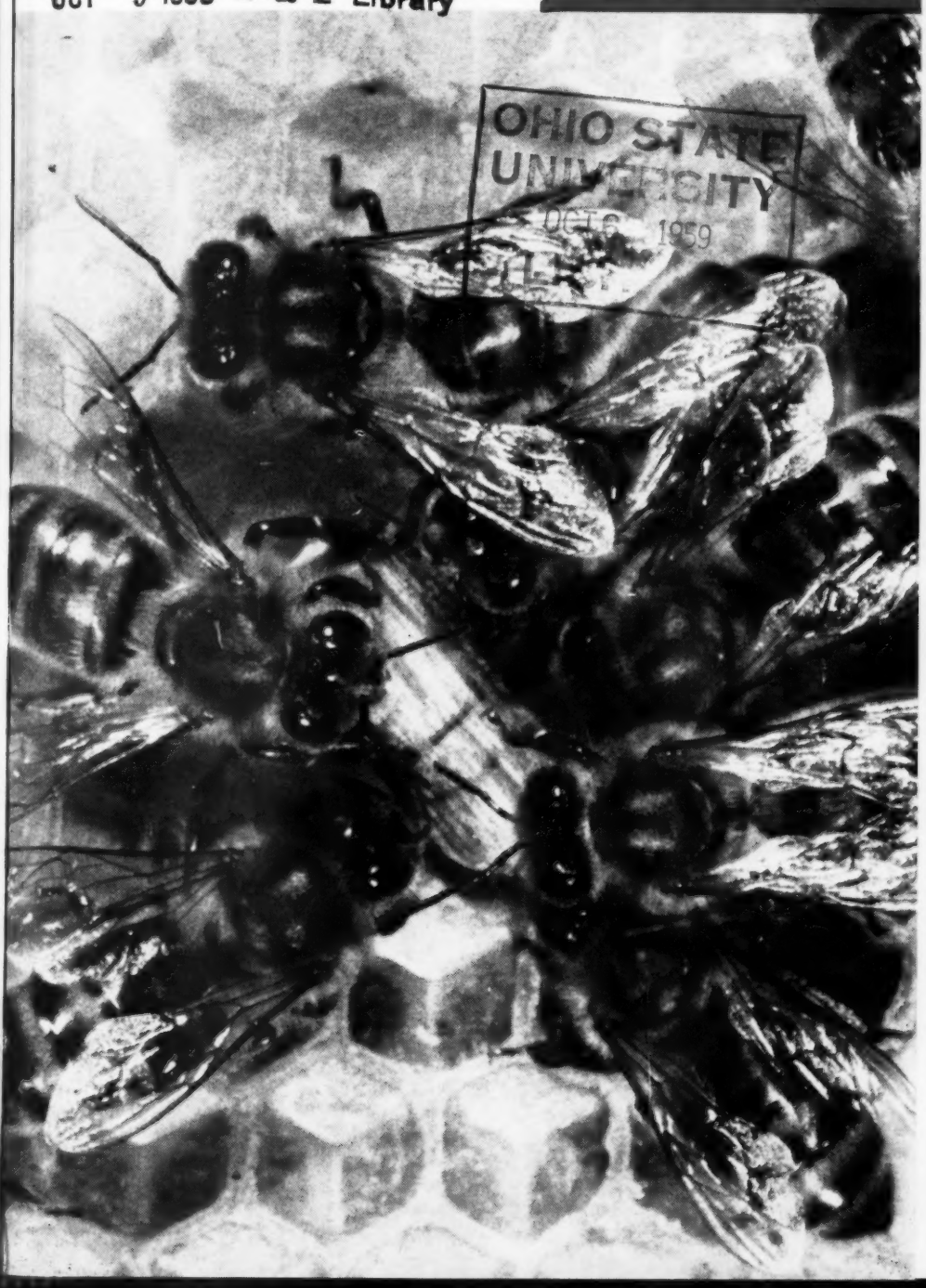

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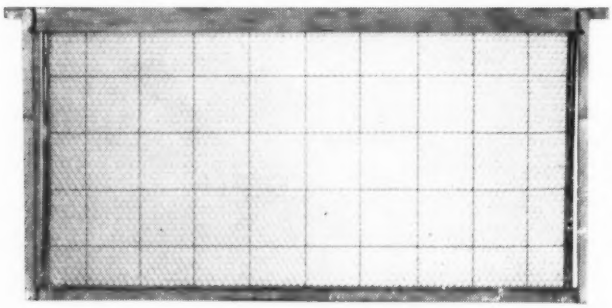

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Gleanings in Bee Culture

October, 1959 Vol. 87, No. 10

CONTENTS

87 years continuous publication by the same organization.

Bee Lines to the Editor		579
Monthly Honey Report	Walter Barth	581
The Diehnelt Family	H. J. Rahmlow	583
Getting Retailers to Sell More Honey for You	Austin Ezzell	589
Pollination of Crown Vetch	Prof. Edwin J. Anderson	590
The Great Revolutionary in the Quiet Monastery	Dr. A. Eytan	594
Try It for Taste	E. d. Fox	599
Lest We Forget	Charles W. Gouget	600
Bees Earn Education	Bill Kagler	602
News Reel		604
Research Review	Dr. Roger A. Morse	606
From Foreign Lands	Erika Barth	607
Editorials		608
Live and Learn	Propolis Pete	610
Let's Talk about Honey Plants	Dr. Harvey B. Lovell	611
Coffee at Three	Mrs. Benj. Nielsen	613
Wintering Bees in the North	Dr. Mykola H. Haydak	614
Queen Marking Cage	Richard Taylor	617
Fertilizer Value of Bees	Dr. William C. Wilson	617
E.A.S. Meets		618
Our Cover Photo		621
Honey Helps "Better Meals Build Better Families"	Harriett M. Grace	622
Heating Honey	W. H. Fleming	623
A Talk to Beekeepers	M. J. Deyell	624
News and Events		628
Obituaries		629
Asked and Answered		630

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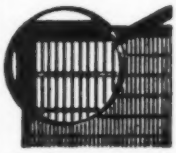

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Bee Lines to the Editor

Beekeeping Conditions Have Changed in New York State

"In your recent Honey Marketing Report in Gleanings, you asked about our changing honey plants. Here goes:

"To start, the very first article in that copy of Gleanings tells why Mr. Coggshall left New York State for Florida beekeeping. He says because of changing in New York farming methods.

"When I first started beekeeping about 40 years ago, we would get about 50 per cent of the crop from buckwheat, in other words, if we got an average of 60 pounds from clover, we would get another 30 pounds from buckwheat. We could even get buckwheat comb honey in sections.

"However, I am not located in the real buckwheat region which was the valley of the Mohawk river which starts about 20 miles west of me. But we did get the buckwheat honey which included all fall honey.

"Now we seem to get just about what the bees need with possibly a little extra to help out in the winter. I don't even super for a surplus--just keep a little room on the strong ones for a possible few pounds.

"Incidentally I believe one of the largest crops of honey ever produced in one bee yard was by a man named Alexander, near Amsterdam, N. Y., who had something like 650 hives in one location and produced some 300 to 400 pounds per hive. Imagine it! I believe the editors of Gleanings could verify this story. I think it happened about 1906-1908.

"I don't know what to say about New York State beekeeping as I am a definite backlotter and not in touch with the commercial beekeepers. I know one family about 30 miles south of me that apparently makes a living from bees. They seem to work hard, have nice trucks. They have yards of about 40 or 50 hives distributed here and there. This information was gained from observation only."

H. A., New York

Honey Lowers Blood Pressure

"What possibilities this caption holds. For it is true that honey lowers blood pressure in another case I know of besides the translated report of such a case by Mrs. Erika Barth. The other case is my very own. For years I was my own bees' best customer for I consumed over 100 pounds of honey a year. I was also suffering from very low blood pressure and even had fainting spells. My doctor told me when I mentioned the large quantities of honey I consumed, 'you are boozing on honey'. But I liked my pure sage honey and kept on eating it not realizing that I was bringing my low blood pressure upon myself.

"Then one day it happened. After a very severe stinging I became allergic to anything that had to do with bees and that was the end of my eating honey. And right there and then my blood pressure began to climb. It has been normal ever since.

"If honey will do that to a person with normal blood pressure what will it do for a person with high blood pressure? I am not trying to chase a patch of blue sky. But doesn't it hold promise for the end of all honey over-production if honey proves to possess medical value in reducing high blood pressure? The possibilities should be thoroughly investigated and the results brought to the attention of the proper medical authorities, like the American Medical Association.

"And right here is where the American Honey Institute can be of tremendous value to all beekeepers and deserves their full support. It seems almost too good to be true. But one thing is sure, it's the sweetest way to reduce blood pressure."

C. J. K., Calif.

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½ lb Jars, per reshipping carton of 24	1.25	1.15
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Monthly HONEY Report

WALTER BARTH, Field Editor, San Antonio, Texas

EDUCATION IS probably one of the best ways of improving our national honey market. That takes work, but long before the toil begins there must be a strong and active bee association. Nationally, the nucleus of such an organization already exists in the American Beekeeping Federation. Within recent years the first strong **regional** association has developed and beekeepers will be hearing more of this group, **The Eastern Apicultural Society.**

Some 500 beekeepers recently attended the annual convention of this group held at Cornell University at Ithaca, New York. Having attended the initial meeting of this group I know of their enthusiasm.

National Picture

Had the West Coast and Mountain States produced an average crop I believe we would be in for a real big crop this year. However, as it appears from here the crop looks like an average one, and might possibly be as much as 10 per cent below average. I am probably sticking my neck out on this one, especially since my old friend and veteran honey crop predictor, Harold Clay, is looking for a better than average crop for '59. Guess we will just have to sit tight and see what happens.

Close examination of states brings out these impressions. Texas is running anywhere from 10 to 15 per cent ahead of last year. Neighboring Louisiana didn't fare so well. Alabama reports a good flow. W. A. Stephen of North Carolina reports that Sourwood has been almost a complete failure again this year. Gallberry was also short in the southeast. Up in Tennessee the picture is varied. There the crop is good in the east and the west but poor in the central part of the state. Eastern Kentucky did well but the rest of the state wasn't so fortunate.

Indiana reports a very good crop. Northern Illinois is happy about the same thing but the southern part of the state didn't fare so well. Michigan and Wisconsin are also good this year. Frank Swanson of Council Bluffs reports that a good crop is being harvested in Iowa, and the color and body of the honey are good. In Minnesota prospects are for 90 per cent of a normal crop. Latest reports indicate that Ohio has made a good showing.

Some states have waited a long time for a good crop. And Pennsylvania has certainly done its share of waiting. This year they harvested "one of those crops everyone is looking for". A good reward for a fine lot of beekeepers.

Then there is New York. It looks as though there will be an average crop for the New Yorkers this year. Rain is needed if a goldenrod harvest is to be expected.

Since some folks have written and inquired about mail order honey prices I am going to quote from the price sheet of a veteran New York mail order beekeeper, Michael Boczko. Here is what he gets for truly fine liquid honey:

One 3-lb can, $1.60; two 3-lb. cans, $2.75; four 3-lb. cans, $4.95; one 60-lb. can, $15.00; one 5-lb. pail, $2.30; six 5-lb. pails, $12.50; one 5-lb. pail chunk honey, $2.85; six 5-lb. pails chunk comb, $14.00. This honey is shipped postpaid into the third zone from Mr. Boczko but for greater distances honey is sent at the customers' expense.

While it is still too early to give any definite prices, reports coming in indicate a rise in five pound jars and pails from the average of $1.50 to $1.60. Sure hope this might indicate a trend, especially with so much fine honey being harvested this season. Beeswax remains steady with no increases nor decreases expected in the near future. In all probability there will be a good beeswax crop.

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It is so quick, easy, and final. Uncap into the melter. The cappings melt and run out with the honey into the wax separator where they are separated. The next morning you have a hard cake of wax ready for market. Use electric hot plate or any form of heat. Water jacketed bottom. Available with stainless or galvanized sides and copper bottoms. Prices start at $16. Big 64-page catalog describes this and many other items not listed in other catalogs.

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Mr. and Mrs. Walter Diehnelt, Sr. of Honey Acres. Mr. Diehnelt shows a Linden Apiary butter crock in which his father sold honey. Mrs. Diehnelt has beeswax candles while at left, Mrs. Bellmann, Secretary, shows a novelty container of honey. Office in rear.

The Diehnelt Family

Walter Diehnelt's grandfather, Frederick, kept bees as a hobby in Germany. He came to Milwaukee about 100 years ago. Walter's father, August, was a side-line beekeeper and a carpenter by trade. At the age of 19 Walter took over his father's 300 colonies.

H. J. RAHMLOW
St. Petersburg, Florida

ON A MONDAY morning in July, I drove out to Honey Acres, near Menomonee Falls, Wisconsin, just northwest of Milwaukee, to see Walter Diehnelt and son Walter, Jr. I had chosen Monday because I thought they might not then be as busy as usual. I was mistaken about that — everyone around the place was "flying". One of the girls said "If you want a picture of Walter better take a movie". Walter, Jr. was helping a friend, Don Williams

The buildings at Honey Acres have expanded over the years. Original building is at left. New four-car garage, unloading platform and storage for about two million pounds of honey is at right and rear.

and son of Ft. Atkinson, Wisconsin, unload a truckload of 60's, and load up some supplies. Mrs. LaVerne Bellmann, Secretary for eight years, was waiting on two carloads of out-of-state tourists who wanted honey candy and honey in pottery containers. A little later she was consulting Walter about a gift box she had made of honey candy for a national woman's organization. They wanted 2,000 of them for their annual banquet. Mrs. Bellmann said they had just mailed 500 three ounce "squeeze" bottles of honey to another organization to be used as banquet gifts.

Mrs. Walter Diehnelt, Sr. was very busy making arrangements for the local garden club flower show and Walter had taken in a load of flowers for her early that morning.

Plant Operations

One truck with two men had gone out early to bring in a load of honey for extracting from the 1500 colonies in 33 yards. Walter Jr. who has charge of all honey production and another helper would leave soon in another truck to bring in honey. Son-in-law and Sales Manager, John Schmidt, had left early in the route truck to call on store trade.

Two girls were covering cold candied honey with warm chocolate and almonds, making bars and candy. Later they would fill jars for candied honey and also bottle honey in containers of various sizes.

Two men were uncapping and extracting with two 50 frame and one 30 frame radial extractors. They extracted over 4000 pounds during the day.

Plant foreman, George Czarnecki, was filling the honey heating room with 58 60-pound cans. The honey would be liquefied and brought to a temperature of 130 degrees F., then pumped through the flash heater which we will show next month.

Honey is Big Business

Now and then I would catch up with Walter in his rounds between various departments and in handling business details. "We will go down town for dinner", he said, "Then we can talk. I am expecting Carl Killion with a

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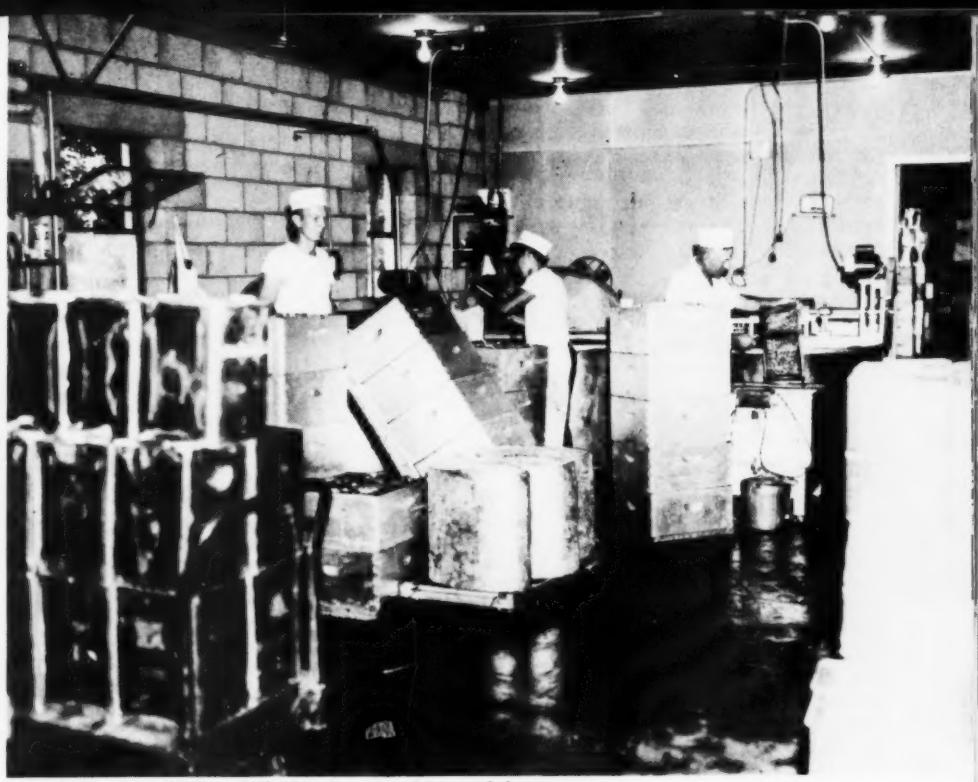

Extracting room. Walter Diehnelt, Jr., in charge of honey production is at left, moving a stack of supers full of honey.

load of comb honey about noon, though".

When we returned from lunch, Carl, his son and grandson from Paris, Illinois had unloaded about 400 cases of very beautiful comb honey. We discussed the effect of the serious drought in Illinois during mid-July. The sweet clover had yielded well in spite of it, they said.

Walking through the storage rooms we saw stack after stack of 60-pound cans of honey. Cards on the cans indicated their flower source, the name of the beekeeper from whom purchased or the yard from which their own honey was taken. The color and moisture content were given for each lot for future identification. There were perhaps a million pounds of honey on the floor in July.

Honors to the Diehnelt Family

We sat down in the compact little office in which Walter and his Secretary, Mrs. Bellmann handle the accounts involving about 2 million pounds of honey during the year. Everything is run simply and efficiently. There are no frills. You bring in a load of honey and get a check, or the amount is credited to your account for supplies.

Glancing up on the wall we see a framed certificate, beautifully made, which states:

"The Wisconsin State Horticultural Society, recognizing the eminent services of Walter Diehnelt in developing new methods of preparing and marketing honey, and in advancing the beekeeping industry through leadership in organization, presents this certificate of recognition." It is dated November 15, 1945. Walter was one of two persons selected that year by unanimous vote of the Society's Board of Directors.

Mr. Diehnelt was President of the Wisconsin Beekeepers' Association for nine years — from 1939 to 1948. During this time the Association grew to a paid-up membership of over 650. Members who attended will always remember the fine conventions and banquets—with attendance to 250—over which Walter presided and to which he added much enthusiasm.

Two daughters of the Diehnelts have been recording secretary-treasurers of

the Wisconsin Beekeepers' Association for many years—from 1937 to 1959.

Walter is one of those outstanding personalities who creates good will and harmony in an organization, which is so essential to its success.

For 30 or more years the Diehnelts prepared outstanding exhibits of honey and honey products for the Wisconsin State Fair. The family conducted a booth at which honey baked ham sandwiches, honey ice cream and honey sweetened drinks were sold in large quantities—an outstanding service in honey promotion.

A Bit of National Federation History*

As President and Wisconsin delegate representing the Wisconsin Beekeepers' Association at the first meetings of the National Federation of State Beekeepers' Associations (as it was first called), Walter gave valuable help and counsel in those difficult years of reorganization of the former American Honey Producers' League, which had collapsed in 1942.

It will be of interest to members of the National Beekeepers' Federation to know how and when it was organized. Mr. James Gwinn of Madison, Wisconsin, then State inspector, had been elected President of the League at its last meeting, but during his first year he found that the organization had expired. The war was on but yet he felt that some kind of organization was needed. He consulted the writer, then Secretary of the Wisconsin State Horticultural Society at the University of Wisconsin, and also Secretary of the Wisconsin Beekeepers' Association, and we laid plans to call a meeting of delegates from different states to create a new kind of organization, embodying existing state beekeepers' associations. Jim asked that I be Chairman of the Committee on organization.

The first meeting was held in the Morrison Hotel, Chicago, on January 26-27, 1943. Delegates from a dozen or more states attended. Our plan was presented and a program for beekeepers under war conditions was given by a number of speakers. Mr. Gwinn continued as Chairman during the next year.

* Taken from the Beekeeping section of Wisconsin Horticulture Magazine.

On January 11-13, 1944, the second meeting was held in the same hotel. The organization was launched and officers elected. Mr. Oscar Schmidt of Bay City, Michigan was the first President and D. P. Stahlman, Buhl, Idaho, Vice President. The writer agreed to act as unofficial Secretary until a permanent full-time secretary could be financed and elected.

The third meeting was again held in Chicago on January 14-16, 1945 when 20 states sent delegates. Mr. John Holzberlein, Grand Valley, Colorado was elected President and Woodrow Miller of Colton, California, Vice President. The organization was on its way.

Beekeepers for One Hundred Years

Walter's grandfather, Frederick Diehnelt kept bees in Germany. He came to Milwaukee during the time of the migration of many Germans into Wisconsin, especially along the shore of Lake Michigan, about 100 years ago. He kept bees as a hobby. Walter's father, August was a carpenter. He purchased eight acres of land in what is now the northwest part of Milwaukee and developed a side-line of beekeeping until he had about 300 colonies in the home yard. Walter, born in 1889, helped his father with the bees as soon as he could lift a smoker. When he was 19 he took them over.

In those early days hives were largely home-made. They were 10 frame and the cover had a "pitched" roof, because tin was not available. Honey came from white and alsike clover, basswood, with some golden-rod and asters in the fall. There were many basswood trees in those years and they often yielded heavily. August named his business "Linden Apiaries". Crops often ran from 100 to 125 pounds per colony.

Early Marketing

August Diehnelt sold his honey in five and ten pound stone crocks which were also used for farm made butter. Walter still has one of the crocks with the name "Linden Apiaries" stamped on it. The honey was not heated and when it granulated, folks just "dug in". Using a team of horses and wagon they were busy after extracting, peddling from house to house and deliver-

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In 1909 this was August Diehnelt's "Linden Apiary" in northwest Milwaukee. There were 300 colonies in homemade equipment—all very neat and orderly.

ing to stores. The demand was good and the honey was sold in from two to three months. Walter says that honey could be found in the home of almost every working man in the '80's and '90's. Early settlers from Europe had grown up using honey in the home as they had very little sugar and continued to buy honey freely. Later, when sugar and other sweets became plentiful and cheaper, the next generation showed more sales resistance and had to be re-educated on the value of honey.

Those of us who went through this period when the 10 pound pail was a good seller, and who saw how liberally honey was used at the table by the entire family, find it a little difficult now to appreciate the 8-ounce or 1-pound jar as a means of marketing a large honey crop. Of course, good merchandising calls for putting up an item in whatever way the consumer will buy it. Our grandparents bought their apples by the barrel; our parents, by the bushel, and now in our cities it is by the 2-pound bag or even 1 or 2 apples, sold by the pound.

Bought First Auto Fifty Years Ago

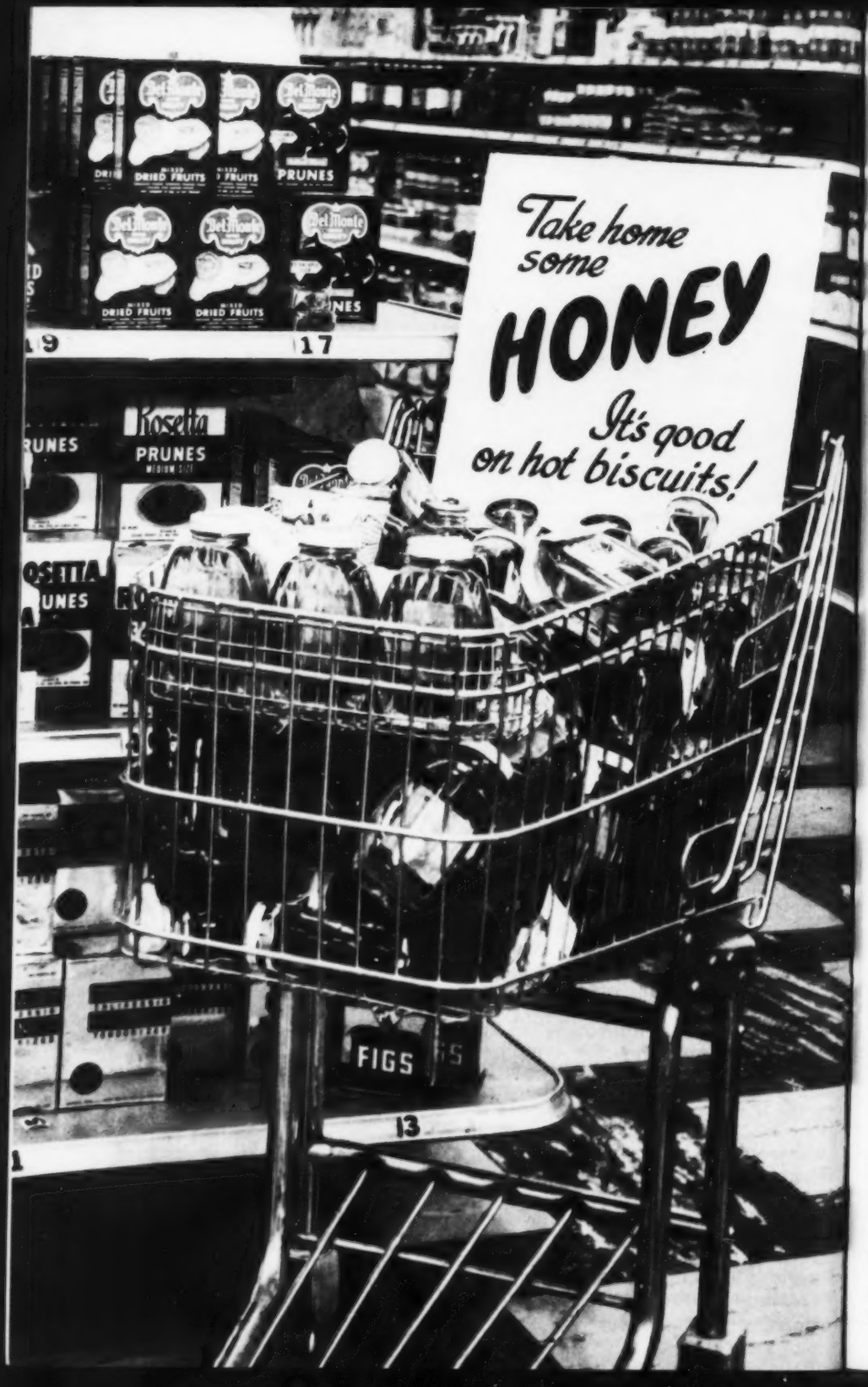
In 1909, just 50 years ago, Walter and his father bought one of the first automobiles to be be driven on the streets of Milwaukee. It had large wheels like a buggy and could go 15 m.p.h. — a highly illegal speed on city streets in those days. We wonder how many times they had to stop to help lead frightened horses past the car.

Early Wintering

August Diehnelt wintered all his bees in the cellar. Walter recalls it was a special occasion in the spring each year when they were taken out. All the relatives came to help and they had a grand picnic — or should we say "Bee-moving Bee". Knowing what it is that "made Milwaukee famous" and the ability of good German cooks, we can imagine the good times they all had. Those of us who have had to carry many bees out of the cellar alone know what a hard job it is. At any rate, it must have been lots of fun and was accomplished quickly with much less effort. We wonder if the term "bee" in "corn husking bee" and "barn raising bee", had any connection with this kind of "bee". No doubt the term came into use because a number of people got together and worked as "busy as bees".

And now we close for this month. In the next issue we will tell you about the new ways of heating, filtering and making candied honey the Diehnelts use, and how during the depression in the 1930's Walter lost his business in a bank failure but made a spectacular come-back with bees and honey.

(to be continued)



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Getting Retailers to Sell more Honey for You

Food retailers are interested in good merchandising techniques. If you can make an ally of him many of your honey marketing problems are solved in one stroke.

AUSTIN EZZELL
Food Merchandising Specialist
Ohio State University Extension Service

SELLING HONEY through food retailers is one of the principal methods of marketing employed by many beekeepers. It provides the beekeeper with ample opportunities to really merchandise his product. No purchaser is more interested in good merchandising techniques than the alert food retailer. If you can make a good ally of him, many of your honey marketing problems are solved in one stroke. But you must have a product he can sell or he will never become a good customer.

Remember that he may have 3,000, 5,000, 7,000 or even more items to sell, each competing for shelf space in his store. Naturally, your package must be attractive and its contents good if he is to continue to allocate valuable space to it. This emphasizes a factor that also is very important whatever method you may use in selling your honey. **You must have an attractive package, with a colorful, eye-catching label on it which is easily remembered by the customer.** Few customers will buy honey packaged in tin now. They prefer a glass container which enables them to see the color and other visual characteristics of your honey.

Your retailer customer will welcome good ideas from you that will enable him to sell more honey, provided this does not result in his selling a smaller volume of some item that would have returned greater profits to him. Chances are you can get him to build a special display (or allow you to build one) occasionally, if you can convince him it will make his store more attractive and will return more "take home" pay. The beginning of a new season would be a good time for this. Select a spot that most customers must face while they are shopping, arrange an attractive, well lighted display of reasonable proportions, and get some talking signs erected on or near the display. Any one or combination of the following also may help you to get the retailer to sell more honey for you!

a) Be sure he likes honey, his family likes honey, and all store personnel who handle your product like it. Small free samples may help greatly in achieving this important objective.
b) Suggest that you will assist with advertising. You may do this by providing small newspaper mats showing your brand name for him to insert in his own ads. Or you may run an ad of your own, listing the retailers in the area who sell your honey and urging consumers to buy your brand of honey from these retailers.

(Continued on page 636)

Apiary used to pollinate crown vetch. Only 18 colonies of bees were present during blooming period.

Pollination of Crow

Honeybees are the principle pollinators of crown vetch but work it reluctantly. Bumblebees on the other hand work it vigorously.

DURING THE SUMMER of 1957, a study was made of the pollination of crown vetch (**Coronilla varia L., Penngift variety**) by honeybees. The results obtained were reported in Gleanings in Bee Culture for May, 1958. In order to check the results gleaned during 1957 and obtain additional information, a second study was made during the past season (1958). It was observed in 1957 that crown vetch is entirely dependent upon insects for pollination, that honeybees worked the blossoms reluctantly because of the limited amount of nectar in these flowers but are an important factor in the pollination of these blossoms. It was also observed that seeds gathered in the screened cages were less in number and lighter in weight than those produced on plants growing in the open fields.

* Authorized for publication on May 8, 1959 as paper No. 2362 in the journal series of the Penssylvania Agricultural Experiment Station.

period.

# of Crown Vetch

PROF. EDWIN J. ANDERSON
Pennsylvania State University
University Park, Penna.

A number of changes were made in the set-up of this problem in 1958 as compared with that used during the previous season. Eighteen colonies of bees were placed in the 90 acres of crown vetch in 1958 while only four colonies were used in 1957. Two cages of plastic screen (12 mesh) and one of galvanized window screen (18 mesh) were made and used in 1958 instead of two made of galvanized window screen in 1957. The dimensions of the three cages used in 1958 were 38 x 51 x 36 inches high which was a few inches larger than the ones used before.

Plastic and galvanized screens were selected for making the cages because of the difference in the amount of light absorbed by each type of material and the bearing this might have on the number and weight of seeds set. A General Electric light meter read 62 foot candles when held under the galvanized screen, 84 foot candles under the plastic screen, and 100 foot candles when exposed to the sky in the open. These figures are approximate figures only, since even a small variation in the angle of the screen to the light meter registered a difference in readings. One of the plasic cages and the galvanized cage were each provided with a small colony of bees. All pollinating insects were excluded from the third (plastic) cage.

Seeds were collected, counted, and weighed from the two cages with bees and from the open fields to determine the difference, if any, in the number of seeds and weight of seeds from each source.

In this study, 200 seed heads were gathered at random from each of the cages with bees and the same number from the open fields. The total number of seeds per head and the weight of 500 seeds from each source was found to be as follows:

TABLE I. Number of Seeds per Blossom Head and Weight of Seeds.

Source of Seeds	Total Seeds from 200 Blossoms	Seeds per Blossom Head	Weight of 500 Seeds in Grams
Records for 1958			
Galvanized cage with bees	3,858	19.3	1.462
Plastic cage with bees	4,216	21.1	1.534
Plastic cage without bees	0	0	
Open fields	4,918	24.6	1.736
Records for 1957			
Galvanized cage with bees	2,014	10.07	1.366
Galvanized cage without bees	0	0	
Open fields	3,558	17.8	1.670

There were two sets of contrasting conditions encountered each of the two years that studies were made. These conditions undoubtedly had a bearing on the pollination of the vetch and the resulting sets of seed. During 1957 the weather was clear and dry with 372.7 hours of sunshine and 1.42 inches of rainfall from July 1 to August 10 as compared to the relatively cloudy and wet season of 1958 when there were only 250.3 hours of sunshine and 7.25 inches of rain over the same period of time which is the main blooming period of this flower.* As indicated before, there were only 4 colonies of bees in the 90 acres of vetch in 1957 as compared with 18 in 1958.

The seed set of 17.8 seeds per head taken in 1957 compares with 24.6 in 1958 or an increase of 38 per cent in spite of adverse pollinating conditions in 1958. The increase in the number of colonies of bees in 1958 apparently more than balanced the adverse weather conditions encountered during this season as compared to the favorable weather during the same period in 1957.

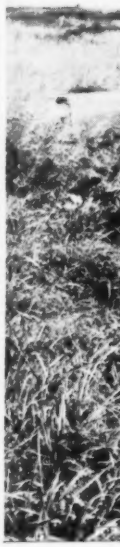
A second study was made which involved two large plots of vetch and the open fields. Each plot was marked with four stakes and connecting cords to enclose areas measuring 8 x 50 feet. Honeybees and bumblebees were observed and counted as they worked the bloom in these plots. They were counted by slowly walking the length of the plot, and listing the number observed working the blossoms. The purpose of these observations was to determine how many of each kind of bee were working in the marked areas. Similar observations were also made in the open fields to determine how the bees worked the blossoms, the number of flowers visited per minute and whether the honeybees were gathering nectar or pollen.

Twenty observations of flight activity of honeybees and bumblebees on the 8 x 50 foot plots were made during the period from July 8 to July 25. The number of honeybees observed working the blossoms during the 20 readings totaled 283, or an average of slightly over 14 bees for each plot at each reading. The number of bumblebees observed at the same time amounted to a total of 32 or 1.6 bees for each reading. The number of honeybees observed at any one reading varied from 3 to 42, and the bumblebees, from 0 to 4. These numbers were considerably larger than for 1957 when honeybees averaged only 2.6 bees for each reading and bumblebees .5 on the same size plots.

Finally, a study was made to learn how bees acted as they worked the blossoms. One hundred and thirty honeybees were observed as they worked the individual flowers on which each had alighted. All of these bees appeared to be gathering pollen. All bees went through the peculiar dance with their rear pair of legs that indicated they were tripping the blossoms to expose the pollen on the anthers. Pollen could be observed in the pollen baskets of most of these bees. Many of the same bees also extended their tongues and gathered what nectar was available at the base of the flower. Twelve of the blossoms were examined but only minute droplets of nectar could be seen in two of them. The fact that almost no nectar could be found in the blossoms and that all the bees were gathering pollen indicated that crown vetch is a very poor producer of nectar. These adverse observations were borne out further by the small production of honey from the pollinating apiary. The 18 colonies of bees produced only 325 pounds of surplus honey which is a very small amount for this number of colonies working 90 acres of blossoms.

The second phase of this part of the project had to do with the speed with which the two types of bees worked the blossoms. The total number of blossoms visited per minute by 22 honeybees was 229 or an average of 10.4 blossoms per minute for each bee. Fifteen bumblebees visited 378 blossoms in one minute or an average of 25.2 blossoms each per minute. There was an interesting difference in the way the two types of bees worked the blossoms. The honeybees were deliberate in their motions in each blossom as they pushed on the sides of the lower cup of the blossoms with their rear legs in an effort to trip the flowers and expose the pollen in the anthers. The bumblebees on the other hand, worked as if greatly excited and as if their life depended

* Weather records were taken by the University Weather Station which is located about three miles from the field of crown vetch.



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The cages and one of the plots used in this research program.

upon visiting all the flowers in one day. They would light on a blossom and vibrate their bodies vigorously making an audible buzzing sound, then hurry to the next blossom and repeat the performance. This intensified activity accounted for the greater number of blossoms visited by bumblebees during the one minute intervals.

In conclusion, the observations made in 1958 verified the findings of last year which indicated that honeybees are the principal pollinators of crown vetch but that the bees work the blossoms reluctantly probably because nectar is present in the flowers in extremely small droplets. The low production of honey by the 18 colonies also indicated that these flowers are poor producers of nectar. It was observed this season that the blossoms produced a fair amount of pollen and the efforts of the bees were directed toward the gathering of pollen rather than nectar.

The smaller set of seeds in cages with bees indicated again that the decrease in light intensity in the cages resulted in the production of a smaller number of seeds and seeds that weighed less than did those exposed to the full light of the sky.

The increase in number of colonies of bees in the 90 acres of vetch, during the 1958 season brought about a heavier concentration of bees in the open field and a larger set of seed per head in spite of less favorable weather conditions for pollinating the blossoms.

The observations of the activities of the two types of bees indicated that each had its own technique for obtaining pollen from the blossoms. Bumblebees visited 2.4 times as many blossoms per minute but honeybees were present on the flowers in numbers 8.7 times as great as were the bumblebees.

"THAT REMINDS ME - I HAVE TO GO HOME AND ORDER A NEW QUEEN OF MY OWN TO INTRODUCE TO MY CAUCASIAN BEES!"

B & Z Library

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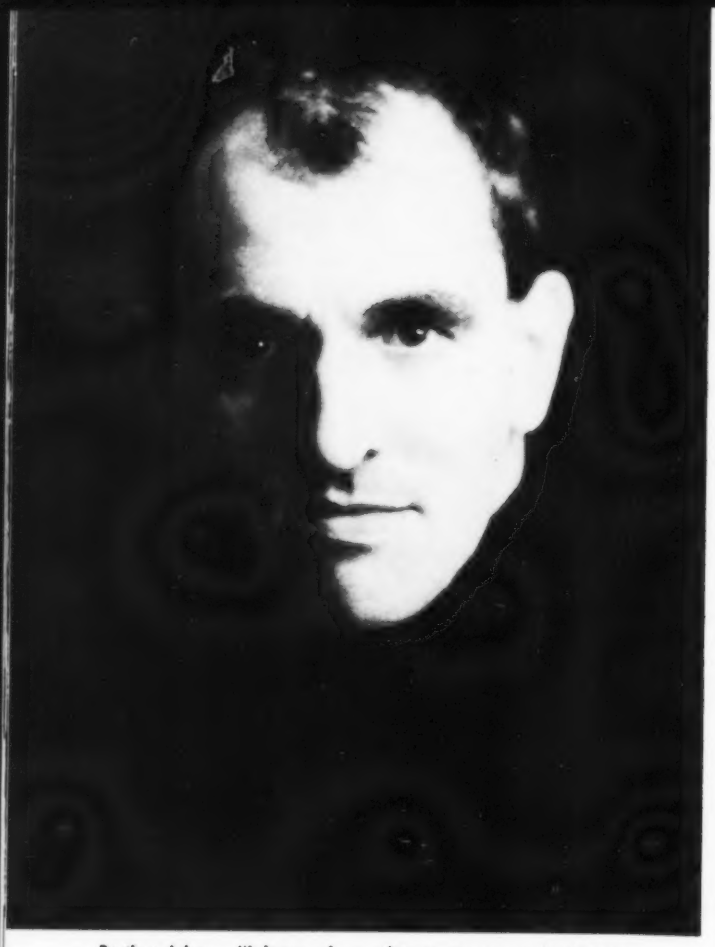

Brother Adam — "I know of no other contemporary beekeeper and breeder as talented and skillful as he. Brother Adam will play an important role in the history of beekeeping."
— Dr. Armbruster

DR. A. EYTAN
Bir Ya'aqov. Israel

This is no tale of a secret meeting behind the barred and bolted doors of some political revolutionary, but merely an attempt to describe in general outline, the theory of that famous beekeeper—the monk, Adam Kehrle, or Brother Adam as he is more familiarly known to his beekeeper brethern.

BROTHER ADAM is an inmate of Buckfast Monastery situated in the county of Devon in the south of England. I was fortunate to have been able to spend about six weeks in his company, working in close contact with him on his bee farm.

To put it in a nutshell, the county of Devon may truly be described as "the land of milk and honey". It is covered by vast stretches of rich and fertile grazing lands affording abundant pasture for the numerous cattle, sheep, and horses. These pasture lands are enclosed by hedges or low stone walls similar to those with which the Arabs in this country fence in their

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The Great Revolutionary in the Quiet Monastary

fields. These areas too, provide a wealth of nourishment for the bees. There are two plants which form the main source of honey: the clover, and the moor shrub called heather.

It is an interesting point to note, that the animals are left to roam about in these pasture areas, entirely unattended and quite free, with no buildings or any other form of shelter against the elements. Indeed it happens sometimes that there is a sudden and unexpected snowfall, and with insufficient time left for the farmers to drive their herds in to shelter, the animals are left to freeze in the snow.

We Israelis who are accustomed to seeing fat tails on our sheep, would be surprised to see sheep with abbreviated tails, these being cut short when the animals are still quite young. The English do not rear cattle for milk, but for meat and wool.

The county of Devon is an abundant watershed, with a rainfall of as much as 1,600 milimetres per annum.

The Special Method of "Crossbreeding"

Brother Adam is a person of very peaceful disposition. What form then, does this astonishing revolution of his take?

Since the invention of the movable comb hive about a century ago, the main developments in this branch of husbandry have been in the technical fields. The well known Professor Armbruster then appeared on the scene with his well grounded theory of "Crossbreeding" the bee. Brother Adam has grasped the potentials of this theory, and has translated them into terms of actual practice. In fact, he is the only person in the beekeeping field who has gone to the extent of developing the crossbreeding of bees into a fine art.

What, actually, is the nature of the "Crossbreeding" process?

One of my friends who is a veteran in this field, has posed the question: "If two different strains of bees are crossed, they produce hybrid progeny—bastards. How then, is it possible to preserve the peculiar characteristics and specific qualities of the future generations of this hybrid product of the 'crossbreeding' system?" My friend went on to complicate matters by posing another question: "and in general, do these hybrid insects form a special strain?"

My friend substantiated his argument by quoting the following example: "In the breeding of poultry, the crossing of two strains produces a hybrid fowl which is classed as successful, and which has two excellent qualities—it is a good layer and has substantially more flesh than the orthodox Leghorn. This hybrid however, is not a new strain. There is not, neither is it possible to induce stability in this strain. This is merely an isolated development which has no continuity in following generations. The achievement is lost with the death of the hybrid fowl!"

In the breeding of bees, it is noted that the accepted formula is that of Pure or Line Breeding, i.e. the mating of singles—male and female of the same strain. Pure or Line Breeding is mainly a process of inbreeding, i.e. through blood relationship. Breeding of bees by means of Pure or Line Breeding implies the isolation of the good and the bad characteristics of the strain. Through the process of continued selection and re-selection, the undesirable characteristics are eliminated, and as a result, the good qualities are intensified. It is a fact that through the medium of Pure or Line

Breeding we are able to produce from any certain strain only those characteristics which are inherent in that strain, that is to say, the potential of mixtures is limited. On the other hand, the crossbreeder has at his disposal a selection of characteristics in the different strains.

The crossbreeder combines the good characteristics of the different strains into one—new—strain. For example: the Carniolan bee excels in the gathering of honey, but its shortcoming lies in a strong tendency to swarm. The object of the breeder is to produce a bee which is disinclined to swarm. This desired characteristic does not appear in the Carniolan strain. The Pure or Line Breeder cannot therefore induce this disinclination to swarm in the Carniolan strain, but such is not the case in crossbreeding.

Brother Adam describes his breeding activities in an interesting experiment which reveals the unlimited possibilities for crossbreeding: (from his lecture at the Beekeepers' Congress in Vienna in 1956). "The French bee is renowned for its stinging propensity and in addition possesses a number of other undesirable characteristics. In spite of these handicaps, however, I succeeded in breeding from it, after a number of generations of successive crossbreeding, a wonderfully quiet Golden bee, characteristically disinclined to swarm, and also, not given to propolize (one of the disadvantages in the French bee). It was much nicer and fuller in color than its American counterpart (the American Golden Bee). This was an ideal bee on all counts, excepting the one, that it was very susceptible to acarine disease. Losses on account of this inherited weakness were so great as to render the further breeding and keeping of this strain economically prohibitive."

There is no doubt but that in crossbreeding we have the possibility to produce new strains of bees of great economic value, a fact amply demonstrated by Brother Adam in the course of his bee husbandry.

Here is one of many examples: In 1949, Brother Adam introduced a queen bee into each of 22 colonies. These queens were the progeny of one of his famous breeding queens (cultivated naturally by crossbreeding). These colonies produced an average yield of honey of 94.5 kilograms each. This fantastic foraging ability was due to Brother Adam's system of bee breeding and selection. For experimental and comparative purposes, a newly introduced race succumbed to acarine disease in identical conditions.

Why is crossbreeding decried in bee cultivation, when such wonderful results are achieved in this way, in plant life?

It was just through crossbreeding that Mitchurin, that distinguished cultivator of plant life achieved his wonderful results. He grafted different kinds of plants from all parts of the world, far apart and in great contrast to each other. In particular he favored those plants which were not acclimatised to Russia. Of the products of this crossbreeding, those cultivations which were adapted to conditions in Russia proved to be of marked economic value. The reader is no doubt acquainted for instance, with the Gamba plant, produced by crossbreeding the tomato with the pepper plant.

It is an axiom in the Law of Heredity, that strains which are very different from each other, such as, for instance, crop or any other kind of genes, are easily given to selection and breeding on account of the wide differentiation existing among them.

In order to preserve the results achieved through crossbreeding, Line Breeding must be resorted to. This is the secret to success in crossbreeding. In other words, Line Breeding induces stability in the new strains.

In the course of his breeding activities, Brother Adam has produced a new strain called the "Buckfast Strain" or the "Adam Strain". He is, however, not content to rest on his laurels, but continues to improve the strain. In the first place, this new strain is a great honey producer, secondly it is resistant to diseases (in particular to the acarine disease), thirdly it is of a mild disposition, fourthly it is disinclined to swarm, and lastly it propolizes very little. It is the color of brown shoe leather. During the past decade, the average yield of honey per colony in England was 13 kilograms. In comparison, the average yield per hive at Buckfast during the same period was 30 kilograms, with a rise in 1949 to 72.5 kilograms, which is a truly won-

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One of Brother Adam's beautifully manicured apiaries.

derful achievement. This applies to a large commercial apiary comprising 320 honey producing colonies and 500 nuclei intended for the production of queen bees. The nuclei are isolated in a separate special mating yard in which they also spend the winter. Obviously, these achievements speak for themselves.

I quote hereunder an appreciation of Brother Adam, by Dr. Armbruster, (Archiv fur die Bienenkunde, 1950): "I know of no other contemporary beekeeper and breeder as talented and skilful as he. Brother Adam will play an important role in the history of beekeeping."

Technical Improvements

Brother Adam is first and foremost a practical beekeeper who has evolved a number of technical improvements in the art of tending the bees. His method of introducing the queens is well known.

At Buckfast, a lot of work is saved solely through the use of crimped wire foundations. The wires are not stretched in frames, and the insertion of the combs is accomplished in a simple manner and more quickly.

He has devised a very efficient feeder. The roof of the hive serves as one large receptacle with a hole in the center similar to our overhead feeders. This clever arrangement facilitates on the one hand the introduction of an appreciable quantity of sugar solution, whilst on the other hand enabling the bees to feed over a wider area. Both these features reduce the feeding time and eliminate unnecessary labor.

There is no necessity to stoop over the hive whilst servicing it, because it is raised on an elevated base.

Planer shavings are used as fuel for the smoker. Owing to the dampness of the climate, the shavings are also damp, and therefore, give off plenty of smoke.

The 320 colonies of bees are spread over 10 different places. After the season in which the clover blooms, they are moved to the moors to gather the honey from the heather.

All the arrangements and working procedures are of a highly technical standard, very well planned and extremely efficient.

A Way Out of the Blind Alley of Disease

I quote Brother Adam's opinion as it appears in the British Bee Journal for 1954:

"In some circles, reliance is placed to

An out-apiary, only part of Brother Adam's 320 honey producing colonies.

a great extent on the use of antibiotics and other cures for the treatment of brood diseases. As a rigidly practical beekeeper, I have never had faith in any particular method of cure. Instead, I have relied entirely on hereditary or induced powers of resistance to disease. I am convinced that one of the most advanced future achievements will be the development of a strain of bees with disease resisting powers. We must in any case differentiate between resistance to disease, and immunity. Immunity is the ideal, but resistance will serve all our purposes."

Quoting from his lecture on Breeding, at Hanover in 1953:

"One of the foremost aims in breeding, is the development of disease resistant strains, whereby all the evils which arise out of the use of the various methods of cure, will be eliminated. The main disadvantage of remedial measures is, that although they do check the disease, their influence is not of a lasting nature. Once a remedial measure has been applied, it must be continued, otherwise a colony of bees, once infected by the disease, may again be affected."

Brother Adam—the Man

Brother Adam commenced his career in this field at the age of 15, and during the 45 years which have since elapsed, has continued to live solely for his work. The bee is in his blood, and in his day to day activities can be noticed many of the wonderful traits of the bee he created.

He is early to rise, sparing of speech, and prodigal in doing things. He worships order and flowers, and his work with the bees is excellently organized. Everything progresses as if on a conveyer belt. Adam, 60 years of age, works with the quickness and enthusiasm of a young man.

Some of the work is very tiring. For instance, the transfer of the nurses during breeding time, to the mating station. The terrain is very rocky, and the truck is constrained to stop at a certain distance from the site. Adam does not allow his two permanent and skilled assistants to transfer the heavy hives on a stretcher from the vehicle to the mating yard without he himself lending a hand. He carries one end of the stretcher himself, and groans well and truly under the weight of the hive.

It was one of those normal cloudy days so characteristic of the English weather. In order to ensure a rainfall of 1,600 milimetres, the Clerk of the Weather sees to it that England hasn't many days of clear skies. There was an intermittent drizzle, and the temperature stood at 14 degrees. Brother Adam, his two assistants and I attended to the bees. We wore gum boots and raincoats. Had I been told that the bees were being attended to in such weather, I would have simply ridiculed the idea.

The enthusiasm with which Brother Adam tackled his work simply overwhelmed us.

Happy is the man who finds his recreation in his work.

TRY IT FOR TASTE

E. d. FOX
Washington, D. C.

LAST WINTER we noticed a number of new faces among our honey customers. Mildly curious at first, we questioned one of the newcomers and discovered a new book had recently appeared in our locality. It contained many interesting facts relating to the use of honey as an aid to health.

This was fine with us but human nature being what it is, with added readers came a rush of folks searching for the nearest honey supply. When the situation began to resemble something akin to our idea of the gold rush of '49 we did have cause for alarm. Our problem has ever been to keep our honey supply in advance of the popular demand for it.

Our fears were short-lived for the temporaries did not become regulars. The new faces vanished as quickly as they appeared. Later we found out Mrs. so and so could not cure her rheumatism or bleach her freckles and Mr. Whoozit kept his sinus headache and his warts etc. These poor misguided souls expected miracles overnight. Now they had lost faith because someone spread the word quoted from a different piece of literature. This one stated honey was overrated in its benefits to mankind.

It does seem quite regrettable when theories have been tried, tested and proved absolute fact by research and hard work that there is always some joker around trying to dispute legitimate claims—the never ending battle of pros and cons.

Our consolation and satisfaction is in the simple true thought that honey tastes good. We eat it because we like it. As three-year-old Wendy says, "Please pass the honey, I like it, 'cause it's yummy for my tummy!"

Lest We Forget!

Sales promotion involves all factors that tend to create a "need" for honey in the minds of the customers or purchasers. This "need" may be created through the personality of the beekeeper or storekeeper, through clever roadside advertising such as that used by Burma Shave or by educational exhibits in a store window, at a state fair or on television.

CHARLES W. GOUGET
Glen Ellyn, Ill.

MOST OF ALL sales promotion involves a quality product, attractively packaged, and produced under the most sanitary conditions, otherwise there is nothing to brag about, and that's what sales promotion really means.

Logically sales promotion divides itself into several "spheres" of promotion, namely: 1. The personal sphere, 2. The local sphere, 3. The state sphere, 4. The national sphere. To obtain the best results all of these "spheres" of sales promotion must work together constantly as a unit. Only under such coordination and cooperation can maximum results be expected.

1. **The Personal Sphere:** This sphere is the grass roots of sales promotion because it is sales promotion largely by word of mouth at the source of sales which includes friends, relatives, neighbors, dealers, storekeepers and customers. A good story will travel a long way, and like the bards of old, those who become properly indoctrinated will spread the good news. This means that the producer and the salesman must know all they can learn about their product, and know how to present this information to their customers in a way that will cause them to want honey. Some self educating may be necessary, but eventually it will pay off in sales. Much valuable information along this line may be obtained from the American Honey Institute. This information is short and to the point, consequently it can be easily remembered to build up a convincing sales talk. A more detailed study may be obtained from state and national bulletins and from the beekeeper's best reference book: ABC and XYZ of Bee Culture. A talking knowledge of the uses, composition and benefits of honey is essential for effective "personal" sales promotion. It is a "must".

One of the most convincing arguments for making a personal sale is a generous, free sample of honey, following the technique of the Fuller Brush Man. If the customer accepts the sample, and most likely he will, immediately he is under an obligation to be courteous and to listen. The sample focuses the attention of the customer on the honey, its clearness and viscosity in the neat little jar, while the salesman explains its purity, its uses and its health-giving energy values. Try this approach and see if it

doesn't work. It is especially effective in person to person selling.

2. **The Local Sphere:** The beekeeper who sells his products locally is usually a member of the community, a fact that means that his friends and those of the family provide a large number of his customers. Under such conditions where there is a kind of "one big family" relationship between the customers and the producer the beekeeper is always in a "goldfish bowl" because of the natural curiosity of his neighbors and friends and because of the apparent mystery connected with raising bees. Although much of the close scrutiny of the community can be used to promotional advantage by the beekeeper, a little carelesness on his part may produce completely negative results and an actual loss of sales. If for example, the beekeeper allows his bees to bother his neighbors they may grin and bear it, if they are good friends, but still not entirely without malice. Fearful neighbors may be "panicked" into a lawsuit, if the condition is not corrected immediately, and the beekeeper is bound to lose by adverse advertising.

Likewise, if the beekeeper keeps a ram-shackle apiary he may become the talk of the town because of his cluttered up place. Shiftlessness can be associated with the lack of sanitation in handling foods. Obviously, although there may be good, bad and "worse" advertising there can be only one kind of sales promotion, and that must be good. Often factors which appear to be unimportant, on the surface, for effective sales promotion may prove to be very important upon closer scrutiny. Some of these factors may be listed as follows:

1. Maintaining a friendly attitude towards customers and friends.
2. Keeping a well-groomed appearance.
3. Keeping a neat, well-planned beeyard.
4. Maintaining a sanitary, efficient honeyhouse.
5. Putting up an attractive package with a quality product.
6. Maintaining an attractive, clean roadside stand.

The above factors are the "grass roots" for sales promotion for the local beekeeper, factors that should not be ignored if he intends to maintain a local market for his products. In addition, the local beekeeper will find that he can glean many good sales promotion ideas from his local organization, especially if that organization makes an effort to emphasize sales instead of production.

3. **The State Sphere:** State organizations are made up of local organizations, and their aim is to provide the beekeeper with information and services that are often too costly for the local group. At state meetings the beekeeper may listen to panels and lectures on a variety of topics vital to his business by leaders in each field such as Disease Control, Organic Sprays, Bee Breeding and Marketing. The state organization can be and usually is a worthwhile educational organization which can act as a clearing house for ideas and information from all parts of the state. In addition it may provide personal benefits for the beekeeper such as Blue Cross or insurance at reduced rates.

What the beekeeping industry seems to lack most is education in the techniques of sales promotion. This should be a state organization assignment.

4. **The National Sphere:** This sphere of sales promotion, although less direct, is very important that it be under the direction of the American Beekeeping Federation.

This organization deals largely with an overall policy and philosophy for the entire beekeeping industry in the United States in contrast with the more specific local problems of production and marketing. It cooperates with Government Marketing Agencies in regulating honey surpluses, and initiates legislation that may in a long run benefit every beekeeper. The possibilities of this organization are far beyond its capabilities due to the perennial lack of funds. With better support from the beekeepers much more could be done on a national scale to keep the idea of honey as a good food before the American Public, a job that cannot be done effectively by local organizations.

Industries that are most successful in selling their products are those that place the most emphasis on sales promotion.

Rev. Wismer watches proudly as Eli, 12 (left) and David, 9, inspect one of their colonies.

Bees Earn Education

BILL KAGLER
Courtesy of the Chester Times

THREE MILLION friends are helping Eli and Dave Wismer stash away funds for a college education.

Eli, who is 12, and Dave, 9, are the sons of Rev. and Mrs. Eli Wismer, Jr., of Swarthmore, Pa. The Presbyterian clergyman has been keeping bees for more than a decade. His sons just naturally picked it up. Now, they own (even keep their own books) a honey-producing business which netted them $450 last year.

With twice as many colonies this year, the boys hope to double their income when the season's extraction is sold during the fall and winter months. The money is earmarked for their college education.

Two developments have spurred business since the boys assumed ownership of their father's enterprise in October, 1957.

First, the brothers are now known to six or seven township police departments. When police receive calls for

assistance regarding bee swarms, they notify the Wismers. The SPCA also forwards calls, as does the Chester police department. Thus, the two brothers come to the aid of distressed residents—and increase their colonies at the same time.

Second, a lack of rain and an early siege of hot weather moved up the swarming time this year. Last year, the boys received 13 calls. They have 12 to their credit already this year. Each time they shake a swarm from a bush into one of their hive boxes, it means another colony of honey-producing friends.

The bees are housed on four sites—a field one block from the red brick Wismer home, another out on Sproul Rd., and two properties owned by their grandmother, one in Trapp and the other in Pottstown. The honey is extracted—in three days' time—during the Thanksgiving school recess. It is then processed and packaged under their own label—Busy Bee Apiary.

Biggest customer is a diet store in Philadelphia. Bakeries, grocery stores and neighbors provide other customers. The brothers augment this income by serving as local representatives for a large manufacturer of beekeepers' supplies.

Bee stings? Don't bother them a bit. Eli, who will be an eighth grader this fall, quips "every time we go down to the field, we usually get three or four. You just get used to them." They seem to build up an immunity as the stinging season wears on.

The boys usually wear bee veils when working around their friends. Only when it's raining or late in the evening do they wear protective gloves. Bees are usually irritable at these times.

Like humans, bees are usually pretty happy when their bellies are full. When they're laden with honey, they won't sting. Let them get hungry, and it's a different story. Thus far, the Wismer kids have not encountered any "hungry swarms". And they are pretty much satisfied to keep it that way.

Each time the brothers collect another swarm, it adds a colony to their collection. When their Dad first began this hobby-turned-business, he had two colonies. His sons now watch over 50.

One was obtained recently under rather unusual circumstances. A group of Scouts from the neighborhood visited the Philadelphia Navy Yard one Saturday afternoon. The trip was made in an advisor's station wagon. When they returned, and scrambled out of the vehicle, they discovered a large swarm of bees was attached to the tail-light portion of the wagon.

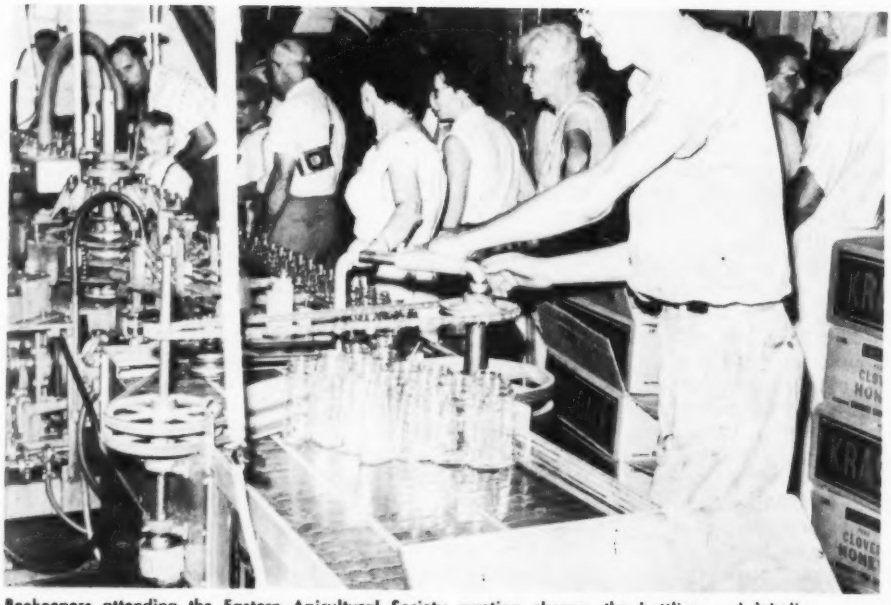
The bees apparently began their afternoon ride at the Navy installation. But after riding nonchalantly through heavy traffic enroute to Swarthmore, they finally were corralled by a pair of wily brothers. One brush, and the bees were in a home of their own—a Wismer hive.

The father, who is now associate director of youth work for the Presbyterian Church, U.S.A., credits the family interest in bees with many things. "The boys have an activity which keeps them busy the year around. They've learned how to keep books, and have become keenly interested in nature. The project is one which we must handle as a family, and thus it binds us together. Even my wife helps out—washing containers and sticking labels".

About the only Wismer not working on the project is year-old Deborah. She will soon, though. A little research revealed that in Hebrew, the word for "queen bee" is—yep, Deborah.

"ARE YOU THE ONE WHO STARTED THIS RUMOR ABOUT THE BEES AND THE FLOWERS.?"

NEWS



Beekeepers attending the Eastern Apicultural Society meeting observe the bottling and labeling operation during a tour through the Finger Lakes Co-op packing plant at Ithaca, New York.

This picture shows W. A. Stephen, Extension Beekeeper for North Carolina, holding the observation hive and three 4-H young people. The girl, Carolyn Barnes, was state winner in 4-H work and appeared later on the state association meeting in Boone, North Carolina.

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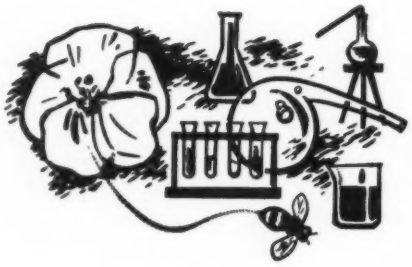
REEL

Seventeen-year-old Shirley Frank of Orefield, Pa., demonstrates her ability to handle bees. Shirley was crowned Pennsylvania State Honey Queen for 1959 at the recent summer meeting and picnic at Cook's Forest. A senior at Parkland High School, Shirley has five colonies. She also sings in the school chorus and plays the cello and bass viol. Following graduation she plans a pre-med. career in college.

Speakers and officers at S. C. meeting, Sept. 22, in Clemson — Front row: L. M. Sparks, Extension Entomologist, Clemson, S. C.; Garnett Puett, Hahira, Ga.; George W. Vest, Lynchburg, Va.; W. K. Synott, Lena, S. C.; Carolyn Barnes, 4-H'er, Winterville, N. C. Back row: E. T. Anderson, Lowrys, S. C.; W. H. Purser, Clemson, S. C.; M. J. Deyell, Medina, O.; Dr. C. L. Farrar, Madison, Wis.; J. E. Blackwell, Inman.



Research Review

DR. ROGER A. MORSE
Research Editor of Gleanings
and Ass't. Prof. of Apiculture
Cornell University, Ithaca, N. Y.

Another Bee Repellent Fails to Pass Test:

A RECENT PAPER from New Zealand reports that a material listed as M.G.K. repellent 874 was not effective when added to an insecticide applied to turnips. Literature on this material supplied by the manufacturers in this country indicated that the material would repel bees when added to various insecticides.

Palmer-Jones, T., I. W. Forster and G. L. Jeffery
Effect on honeybees of Rogor and Endothion applied from the air as sprays to Brassicas; trial of M.G.K. repellent 874. New Zealand Journal of Agricultural Research 2:475-80. 1959.

A Recent Paper on Acarine Disease:

RECENT RESEARCH in England shows that whereas Acarine disease shortens the life of an adult honeybee it does so by only a relatively small amount. A poor honey flow or some other condition which delays expansion of the broodnest will cause a heavier infestation to occur within the hive. When a colony dies from Acarine it usually does so in the late winter or early spring. The authors state that actually it is rare for a whole colony to die from Acarine.

Much of the worry over Acarine in this country stems from reports of extensive damage in England and Europe which was reported 30 to 50 years ago. It has been stated by several people including the authors below that many problems which were probably not caused by Acarine were attributed to it.

The article below should not be taken to indicate that Acarine is not a problem but rather to demonstrate that man is learning to understand and live with animals which cause him trouble. However, we must continue to be vigilant in this country and to keep the Acarine mite out of the country so long as it is possible to do so. Several people have stated that when Acarine caused so much trouble in England that the bees were more susceptible than those they have there today. The article states that this "does not seem to be supported by the evidence available". It would be interesting to know how susceptible the bees in America are to Acarine but we can scarcely afford to experiment here.

Bailey, L. and D. C. Lee
The effect of infestation with Acarapis woodi (Rennie) on the mortality of honeybees. Journal of Insect Pathology 1:15-24. 1959.

An Antibiotic Material Found in Royal Jelly:

INVESTIGATORS IN Louisiana have found that a fatty acid in Royal Jelly is responsible for its antibiotic activity. There has been much controversy over this point and it is stated in the paper below that Royal Jelly loses its antibiotic activity on storage and also that the degree of acidity has an effect.

The substance which was isolated was tested against two bacteria and some molds. In one case it was one-fourth as active as pencillin and in another one-fifth as active as chlortetracycline. It is stated that the material is related to the wound hormone which is a natural product from plants.

The paper concludes by stating that it is not surprising that Royal Jelly contains an antibiotic material since it would otherwise be an excellent medium for bacteria within the hive.

Blum, Murray S., Arthur F. Novak and Stephen Taber III
10-Hydroxy-2-Decenoic Acid, an antibiotic found in Royal Jelly. Science 130: 452-3, 1959.

FROM Foreign LANDS

Translated and Edited by ERIKA BARTH, San Antonio, Texas

Is Royal Jelly a Drug or Food?

A FRENCH firm, Apiserum, which markets Royal Jelly under this name, intended to sue all beekeepers who sell Royal Jelly. The firm stated that since Royal Jelly was a pharmaceutical product it was subject to control by the Drug Law.

It was the opinion of the court, however, that although "Royal Jelly Honey" can be credited with certain natural medicinal value and is a food, it certainly is not a drug. "Royal Jelly Honey" can be sold freely. The court was advised by three experts, a physician, pharmacist and a food specialist.

Further explanation why Royal Jelly cannot be specified as a drug was given by one of the experts, M. Chavin:

Even honey extracted in May and June, during the swarming season, contains a small percentage (1%) of Royal Jelly. One can see therefore that any percentage of Royal Jelly can be hidden under the label "Royal Jelly Honey".

The statement that because of its scarcity, Royal Jelly has to be an expensive product, is also false. One could, technically speaking at least, derive 500 tons of Royal Jelly per year from the colonies now in France (figuring 500 g. per colony at one to one and a half million colonies.)

It is easily understood why Royal Jelly is no drug. Wine contains besides vitamins also Oenidol, a strong antibiotic, but it still does not make wine a drug, as are not milk or honey, both containing strong antibiotic substances. We all know of the healing powers of calves' liver for anemia, or lemon for scurvy. No one, however, would call these foods drugs. Only after these active substances have been drawn out of these foods chemically, does one speak of a medicine.

An analysis of Royal Jelly shows the following components:

Protein:	50 g
Fat:	17 g
Sugar:	26 g
Ash:	3 g
Vitamin B 1:	2.1 mg
Vitamin B 2:	2.6 mg
Vitamin B 6:	0.77 mg
Vitamin PP:	1.9 mg
Pantothenic Acid:	29 mg

This is a typical analysis for many foods. If one makes an analysis of 70 g baking yeast, 10 g flour, and 20 g butter one will find the following components.

Protein:	34.3 g
Fat:	18.4 g
Sugar:	32.6 g
Ash:	4.9 g
Vitamin B 1:	3.5 mg
Vitamin B 2:	2.8 mg
Vitamin B6:	4.2 mg
Vitamin PP:	28 mg
Pantothenic Acid:	14 mg

One readily notices that this mixture is even richer in vitamins than Royal Jelly. It is also much cheaper.

Abeilles et Fleurs, June 1958.

Believe it or Not! (We Don't)

A GROUP OF croquet-playing ladies have been taking Royal Jelly to improve their game. The husband of one, who, incidentally, consumes Royal Jelly himself, shows it is brightening him up a good deal. He is—well, let's say "a bit of a character", and he writes:

Those croquet players have become so pepped up that complaints have reached the Council that croquet balls are being slogged right and left to the detriment of the playing-greens and the danger of passers-by, many of whom have had narrow escapes from serious injury and, perhaps, instant death from flying croquet balls. There is even a report that one of the dear old ladies lofted a ball so high that it has gone into orbit, but others say that the report is slightly exaggerated."

Australian Bee Journal, April, 1959.

Editorials

Honey Price Support Operations

THE UNITED STATES Department of Agriculture Commodity Stabilization Service in a summary of the 1959 Honey Price Support Operations as of July 31st, shows 330,000 pounds of honey under the loan agreement. This compares with 469,000 pounds in 1958, 303,000 pounds in 1957, and 211,000 in 1956. No honey is shown under the purchase agreement.

It is interesting to note in this day of huge surpluses in some commodities under the support program, that honey is not one of these offenders.

The loan program has been helpful to producers particularly in those areas where it is difficult to market their honey quickly after the production season.

Don't Skimp on Winter Stores

IT SEEMS SAFE to say that the most important requirement for wintering bees successfully is an abundance of winter stores. The other requirements are, populous colonies consisting mainly of young vigorous bees and adequate protection against the elements.

Years ago the beekeeping authorities recommended at least 25 or 30 pounds of honey per colony for winter stores. That was during the days when single story wintering was in vogue. It was customary at that time to feed some thick sugar syrup in the fall, after the cessation of brood rearing, to make up what appeared to be lacking in stores. It is possible, even at present, to winter colonies in single story hives, provided the bees have an adequate amount of stores. It is usually necessary to do some early spring feeding.

The use of the food chamber hive has helped to solve the problem of having adequate winter stores. For the benefit of beginners this is a two story hive, the upper chamber filled with honey, in addition to some honey in the lower chamber. Even with the use of this hive, it is possible to skimp on winter stores, unless the beekeeper makes sure that the combs in the food chamber are quite well filled with honey, so that the winter cluster, as it moves upward slowly during the cold winter months may have easy access to honey. During a protracted cold spell, if the bees in the cluster should consume all of the honey within reach, (in other words, if the supply of honey above the cluster should give out,) the bees, not being able to move laterally or sidewise onto combs of honey would likely starve. This may have been what happened to some colonies during the winter of 1958-59.

A two story ten frame colony, having a standard or deep super for a food chamber should weigh at least 135 pounds when going into winter quarters. A

populous colony in a two story hive should have a minimum of 60 pounds of honey for winter and early spring stores.

In estimating tthe amount of honey for a colony one should not overlook the amount of pollen in combs. The cells of the combs are usually about half filled with pollen, then honey is stored on top of the pollen. It is a little difficult to estimate the approximate amount of honey and pollen in combs, especially if they are dark in color. It is better to have too much stores, rather than not enough. The statement by Dr. C. L. Farrar appearing at the beginning of the "Talk to Beekeepers", page 624 still holds.

Young People on the Program

AS WE GET AROUND the country attending beekeepers' meetings here and there it has been gratifying to note an increase in the attendance of young people at beekeepers' meetings recently. Some few years ago the audiences were made up largely of middle aged and elderly people. At present there is a sprinkling of young beekeepers, especially 4-H members as well as FFA members. We are glad to note also that the total attendance at bee meetings has increased during the past few years. This augurs well for the future of our industry. We need young beekeepers to take the places of older beekeepers who are giving up beekeeping or passing off the stage of beekeeping.

One way to keep young people interested in beekeeping, also the work of the beekeepers' associations, is to have them appear on programs periodically so that they can feel that they are making some contribution to the work of the various associations, also to the industry.

During the recent summer state meeting of the Ohio Beekeepers' Association at Lebanon some 4-H members made a worthwhile contribution to the program by demonstrating some methods of handling bees. At a meeting of the North Carolina State Beekeepers' Association in Boone, Caroline Barnes of Winterville, North Carolina, made one of the best talks given at the meeting. She was state winner in 4-H work.

We do need more young people in our industry and we who have had some experience in handling bees should be willing to help these young people in every way possible.

Enjoy Honey Every Day

THIS IS THE THEME for **National Honey Week** which comes the last week in October and is sponsored by the **American Honey Institute,** Madison, Wis.

We wonder what would happen to the honey market if all beekeepers and those connected with the beekeeping industry would have honey on the table at every meal and enjoy it every day.

The August, 1938 issue of Gleanings carried an article, "We believe in Honey", by Prof. Paul W. Dempsey of the Massachusetts State College, in which he tells about the Dempsey family of eight using six 60-pound cans of honey a year. The sugar bowl was banished from their table.

Assuming there are approximately 400,000 beekeepers in the U.S., (no one knows how many there are) and each beekeeper's family ate three 60-pound cans of honey, 180 pounds, instead of six cans, that would be 72,000,000 pounds a year. The estimated amount of honey produced in the U.S. last year was 267,000,000 pounds. If all beekeepers' families ate honey like the Dempsey family, the amount to be sold would be greatly reduced.

Beekeepers and handlers of honey have an opportunity during National Honey Week to focus special attention on our product. There are ways in which this can be done. Beekeepers who wish to sell through local channels can place advertisements in local newspapers. An "Eat Honey" sign in front of the building where honey is to be sold seems essential. Live bee window displays in grocers' windows where honey is sold cause people to stop and investigate.

The use of counter cards, honey recipe folders, and other printed matter put out by the American Honey Institute at a very nominal cost can be used to advantage in promoting honey sales. Let's make National Honey Week a honey of a week.

Live and Learn

PROPOLIS PETE

THE DARNDEST things happen to me. An electronic brain hasn't got enough numbers in it to figure out the odds on this one, but let's begin at the beginning.

Starting around the first of August, and lasting about four weeks, my bees don't bring in much of anything. You can see empty cells that they have opened to use the honey, and a scale probably would show quite a loss. There's very little bloom at that time; a little chicory, a little sumac, and a fair amount of an early variety of goldenrod which the bees have never worked before this year. They did, quite actively, this year, but that is getting ahead of myself. One day early in the month, I heard quite a commotion up around the line of hives, and found that there was every evidence of a whale of a flow.

Since I had already taken my honey for this year, to catch the summer people as customers before they went home, there wasn't very much room for the bees to store it. The fronts of the hives were covered with the workers who couldn't gather nectar because there was no place to put it. As soon as I could, I slapped on supers wherever there seemed a chance to get some fall surplus, and to date seem to be doing pretty good.

I knew that they couldn't be getting all of it from this early goldenrod, so I scoured the neighborhood to see what it could be that they were working. To my surprise, I found half a dozen places where fallow land had grown into a very low sumac about two feet high, just covered with blossoms—and bees. How big it will grow I don't know, for apparently this must be the first year that it has bloomed. Wonder what sumac honey tastes like.

Swarming in August

Anyway, to get back to the story, in the past I have had pretty good luck controlling swarming. But whoever heard of a wave of swarming fever in August? Not me, and I was not prepared for it. I juggled things around as best I could, but one swarm came out, and it sure was a top-of-the-basket peacherino. I don't think that I ever have seen so many bees flying at one time. I have heard about big swarms in winters when we sat around the hot stove, but this sure took the cake. You know those cement bird baths that people put out on their lawns? Sort of a shallow dish on a pedestal, about two feet high and a foot and a half across? Well, we have one of those things, and this swarm lit on it, and covered it so you couldn't see it. You couldn't even see the shape of it, and where the cluster touched the ground, it spread out like a carpet for another foot around the base of the thing. That swarm was two feet high, and a foot and a half across, plus some.

I scrambled around, but didn't have a hive ready. Then I remembered an old hive that I had discarded, and set up in the woods in the hopes that it would catch a wild swarm. It was one of those 11 frame jumbos that are too heavy to lift, and which is not interchangeable with standard stuff. I just set it on the ground, and the grand rush was on. In half an hour all were in that could get in, and the rest hung on the outside. I moved it back where it came from and left it for a week. Then I looked to see how they were doing.

They had drawn every inch of the 20-year-old foundation, and there were eggs and just hatched larvae in the most beautiful pattern I have ever seen. It really was a picture of perfection. I hooked my smoker over the lip of the hive body, so that I could enjoy to the full, the absolute symmetry of the comb; clean white new wax, honey in the upper corners of the brood frames, and loads of new nectar in the outside frames. The queen must have started to lay about the fourth day after the swarm, for there were just hatched larvae in the center, and loads and loads of eggs surrounding it.

Eventually I had to stop admiring, so, lifting the smoker from its hook so that I could get the inner cover on, I found the queen, dead. When I hooked the smoker over the edge of the hive, it had covered and crushed her. Can you tie that one?

Mesquite (Prosopis juliflora).

Let's Talk About HONEY PLANTS

HARVEY B. LOVELL
University of Louisville
Louisville, Kentucky

MESQUITE (Prosopis juliflora) is one of the most important honey plants in the southwestern United States. It develops into a low straggly tree, resembling an old apple tree. As can be seen in the photograph, mesquite has a long slender leaf stalk (the petiole) which branches into two divisions each of which has three or more pairs of leaflets. There is no other tree with a leaf like this. The flowers are grouped around a simple axis forming a long slender spike with all the flowers of a spike blooming together. The flowers are pale yellow and yield nectar freely. The flower clusters are called "tags" in Texas. Mesquite blooms best in dry, desert conditions, and should a moderate rain fall the tree will immediately shed its flowers and use the water for vegetative growth. A good rain will therefore stop a honey flow.

The range of mesquite has been gradually increasing in historic times. It was formerly restricted in Texas to the Rio Grande Valley and adjacent areas. With the destruction of the native vegetation, mesquite migrated far-

ther and farther north until it occurs in southern Oklahoma, southern Utah and Nevada. It is also common in New Mexico, Arizona, and southern California. Mesquite trees are the source of most of the shade in roadside parks and homes in central Texas where the tree is much esteemed. However, in cattle pastures it is considered a pest as it colonizes rapidly and shades the grass. In the Texas Panhandle, I saw many acres of dead mesquite trees which had been killed by spraying.

Mesquite blooms at least twice a year and occasionally oftener, if rain causes the flower clusters to be shed before they set seed. When I drove through Texas in late June a few years ago, I found mesquite coming into bloom all over the state (this was the second blooming period), and several beekeepers told me their bees were storing honey from it. The season was exceptionally dry, but mesquite trees were blooming normally. Surpluses vary greatly, but the maximum that I have heard of was 200 pounds a colony, but 25 to 50 pounds is the more normal surplus.

Tornillo or screw bean (**Prosopis pubescens**) is a close relative of mesquite which grows from West Texas to California. Its pods coil up like a corkscrew giving it the name of screw bean. It also produces a white honey with a good flavor.

Ohio. I visited the state fair at Columbus, the last week in August, and learned that Ohio has had one of the best seasons in years. In the northern part of the state and especially the northwestern counties, honey plants yielded longer and better than usual. Most of the honey is white and well flavored and much of the honey exhibited at the fair graded water-white.

Inspector Wendell P. Smith of Sunbury told me that there had been a good locust flow in early May and that the basswood or Linden flow in northwestern Ohio had been especially good. The trees are common along creeks. Glen Barger of Carey had made several supers per hive of chunk comb honey from basswood. One small apiary Wendell inspected had made a ton of honey from six hives. The supers had been piled so high he could not reach the top from the ground. A scale hive in Clarke County had stored 500 pounds starting with a two queen setup. One day it stored 16 pounds and several days 15 pounds. Mr. Smith has done something which all beekeepers should do, he has set out 300 basswood trees and 300 locust trees.

Dr. W. E. Dunham, professor at Ohio State has one of the largest extracting plants in the state of Ohio. It is equipped with many labor-saving devices for handling honey. For example, supers to be extracted are placed on a platform which can be raised or lowered to put the frames at exactly the right height to prevent stooping. His decapping machine cuts off both sides of the comb at the same time. He has two extractors so he can extract one while filling the other, etc.

He told me he had extracted over 100,000 pounds of honey so far this summer (August 29), and had a lot more to do. There has been a good flow from red clover this summer. It produces a slightly darker honey than the other clovers, with a pinkish tinge. Dr. Dunham gave me a sample which he said was about 20 per cent red clover. I tasted red clover honey still in the combs and found it has one of the most delicious flavors of any honey I have ever eaten. The delightful flavor more than makes up for the darker color which in the mixtures at least still grades white.

Spreading dogbane (**Apocynum androsemifolium**). Dr. Dunham said that he made considerable honey from dogbane in the Killdeer Plains 60 miles north of Columbus. There is an extensive growth of this fine honey plant which has pink, bell-shaped flowers which hang from the spreading branches in great numbers. He said he did not get it pure as it was mixed with that from the clovers. The honey is extra-white and lightens that from the clovers. The flavor is mild. Many beekeepers overlook this interesting plant.

Dr. and Mrs. Dunham have a fine honey stand in front of their house where they keep a large selection of honey for sale. They showed me an article on the value of honey in medicine based on the well known book by Dr. Jarvis of Vermont which had appeared in a Columbus paper. It had greatly stimulated the sale of honey in the region, especially comb honey.

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Chocolate crusted honey almond cream.—Photo courtesy Kellogg Co.

Coffee at Three

MRS. BENJ. NIELSEN
Aurora, Nebraska

NOW THAT the children are back in school, things have settled into routine, more or less, and the weather is cool and invigorating, so that we have more pep, wouldn't it be nice to have a few friends in for coffee? Something a little extra special and honey-way, of course. Give honey a boost while you entertain those guests! And be prepared to hand out the recipes for these luscious treats.

Chocolate Crusted Honey Almond Cream

One tablespoon unflavored gelatin, 1¾ cups milk, 2 eggs, separated, ⅛ teaspoon salt, ½ cup honey, ¼ teaspoon vanilla, ⅛ teaspoon almond flavoring, 2 cups cocoa sweetened crisp rice cereal, ¼ cup chopped nutmeats and 1 tablespoon butter, melted.

Soften gelatin in ¼ cup of the milk. Heat remaining milk to scalding. Beat egg yolks with salt and ¼ cup of the honey. Slowly stir in the scalded milk. Cook over hot water, stirring constantly, until mixture coats a metal spoon. Remove from heat; stir in softened gel-

(Continued on page 639)

Winter scene of apiary where experiments were conducted.

Wintering Bees in the North*

DR. MYKOLA H. HAYDAK
Dept. of Entomology and
Economic Zoology
University of Minnesota
St. Paul, Minnesota

Communication between bees clustered in different frame spaces is maintained through the connective cluster. If this contact is broken and not reestablished the colony may die.

NORTHERN WINTER is the most difficult time for the survival of the honeybee colonies. In order to help his bees to withstand successfully the ravages of winter every beekeeper should know the fundamentals of bee management and he should understand the processes which take place in his colonies during this critical time.

A good queen in the hive at all times is a necessary condition for successful beekeeping. A poor queen in August or early September means poor wintering, because the only bees which contribute to a successful wintering are those that have been reared from the eggs laid in August and early Septem-

* Paper No. 1022, Miscellaneous Journal Series, Minnesota Agricultural Experiment Station, St. Paul 1, Minnesota.

ber. A young vigorous queen is also more likely to weather the winter.

For successful wintering, however, the colony also needs sufficient stores of pollen and honey. The beekeeper should remember that pollen is as important as honey. He should be careful not to remove pollen combs before wintering.

Honey is the main fuel to keep the cluster warm. Consequently, a colony going into the winter must have at least 60 (preferably 70-80) pounds of honey and from four to six frames of pollen to carry them through until the nectar supply is sufficient in the spring. To be ready for winter a two-story standard hive should weigh 125-135 pounds.

At the time honey is removed, the hive entrances should be contracted to minimize the possibility of robbing. The keeper should also provide upper or middle entrances. These will facilitate the removal of moisture from the hive, and, at the same time prevent suffocation of the bees if the bottom entrance becomes clogged with ice or dead bees during the winter. If there are top or middle entrances, the bottom entrance may be closed completely, or the beekeeper may leave a small hole allowing several bees to pass through.

It is of interest to note that already Langstroth stressed the importance of "upward ventilation". In his book "The Hive and The Honeybee" published in 1859 he related besides his the experiences of another beekeeper who wintered 20 colonies of bees which were apparently in very good condition. Nineteen of these, having only lower entrances, did not have "The upward ventilation". One colony "was in a hive suspended 20 inches from the ground, and without any bottom board. The chamber for surplus honey boxes was open to the north and had eight one inch holes all uncovered." The beekeeper lost all 19 colonies, while the one which was treated in such an unorthodox way, survived the winter in a very good condition.

In the cold climate of the North the honeybees do not hibernate but rather they "winter" or pass the winter huddled in a cluster. Inside this cluster the bees are active, responding quickly to any disturbance by coming out of the cluster and eventually out of the hive. The bees begin to form a cluster when the temperature in the hive falls to about 57°F. As the temperature goes down, the cluster becomes more compact and the bees on the outside of it form a shell an inch or two in thickness. The bees consume honey and generate heat, so the bees inside the cluster as well as those outside are kept from freezing. The temperature inside may be as high as 93°F., while an inch from the outer shell may be well below freezing. As long as there is honey available, a strong colony will, as a rule, withstand low temperatures.

Communication between the interframeal spaces is maintained through the "connective cluster", a part of the main cluster which protrudes over the frames. This connective cluster is very important because most of the active ventilation is done through it, the bees come out of it when disturbed or they overflow from one alley to another when moving to the next interframeal space.

If a part of the main cluster loses its contact through the connective cluster and this contact is not reestablished, the bees may die. This may happen during a prolonged cold spell. The position of the connective cluster changes during the winter depending on the position of the main cluster. Therefore the beekeeper should never break the continuity of the bees' space in his hives during the winter by placing the insulation directly over the top bars. If he does, he diminishes the chances of his bees for a successful wintering.

At present the beekeepers are still divided on the question of how best to protect their colonies during winter in order to help bees conserve heat and thus bring about smaller consumption of stores and better wintering.

Phillips and Demuth, on the basis of their experiments, recommended protecting the hives by packing them in wooden cases with an insulation of planer shavings several inches thick. Many beekeepers of the North continue to pack their colonies for winter.

However, more than 100 years ago Langstroth summed up the essentials for a successful wintering in such words: "If the colonies are strong in

numbers and stores, have upward ventilation, easy communication from comb to comb, and water when needed—and the hive entrances are sheltered from piercing winds, they have all the conditions essential to wintering successfully in the open air." At present there is a large number of research workers and practical beekeepers who claim that neither heavy nor light packing is necessary. Farrar who may be considered as the main representative of this trend stressed the importance of pollen for the wintering of bees. He demonstrated that those colonies which had enough stores of pollen and honey, and plenty of young bees and a good queen, wintered without packing and yielded just as good crops as those wintered with such protection.

In order to test these two types of wintering, an experiment was conducted at the University of Minnesota Agricultural Experiment Station for a number of years. In the second half of August of each year the colonies were inspected and the number of frames of brood in each was counted. Then the colonies in each yard were divided into three groups in such a way that the colonies in each group had, on an average, about the same number of frames of brood. This was done in order to have in each group colonies of approximately the same strength. Ample stores were left in each colony for wintering. All colonies had one-inch insulite boards on the top of the inner cover, with the bee escape hole left open. One group of colonies in each yard was left without packing. The colonies in the second group were lightly protected by either a corrugated paper case with a single building paper wrap or a double building paper wrap. The third group was well protected by either double corrugated paper cases or balsam wool wrap, both having one protective single building paper wrap besides, or half inch insulite boards. Middle entrances were provided in all hives by placing strips of wooden shingles on the side walls of the first story. The entrances were contracted to about three inches in length. The lower entrances were completely closed. The colonies were left undisturbed throughout the winter. An inspection in March was made to ascertain the number of dead colonies. Later all the necessary manipulations were performed according to the advance of active season.

The results of the experiment for the winters of 1943/44 to 1953/54 inclusive showed that the loss in dead colonies was the greatest in the non-packed groups in all yards, being three times as great as in the lightly-packed group and five to seven times greater than in the heavily-packed group. The average losses in dead colonies for all three yards were 18.4 per cent, 6.4 per cent and 2.9 per cent for non-packed, lightly-packed and heavily-packed groups, respectively.

The cause of death, in the vast majority of cases, was "cold starvation"—the bees were unable to move to the stores present in abundance in the hive, because of the protracted cold. Sometimes cold starvation was combined with dysentery. Cases of regular starvation were not counted. When the weak and queenless colonies were included in the wintering losses, the differences between the groups were considerable, being 34.3 per cent, 15.2 per cent and 10.5 per cent for non-packed, lightly-packed and heavily-packed groups, respectively.

The results of this experiment agree closely with a similar 13-year experiment conducted by Braun and Geiger in Manitoba who found the losses in dead colonies 33.3 per cent, 13.3 per cent and 5.9 per cent for non-packed, lightly-packed, and heavily-packed colonies, respectively. These numbers closely correspond to those obtained in surveys made by Rea in New York (2.8 per cent loss for heavy-packed and 50.8 per cent for non-packed); Dunham in Ohio (10.9 per cent for packed and 34.1 per cent for non-packed); Haydak and Floyd in Minnesota (42.5 per cent, 18.7 per cent and 10.1 per cent loss for non-packed, lighly-packed and heavily-packed colonies, respectively.)

The question of whether "to pack or not to pack" for winter confronts everyone keeping bees in the North. I think that every beekeeper should solve this question for himself. If he is satisfied with the results of his method of wintering he should continue to use it. If his losses are high, trying some other method which may be more suitable for his conditions and locality, is advisable. I pack my bees in Minnesota.

This marking

This marking cage is manufactured in England.

A Queen Marking Cage

RICHARD TAYLOR
West Barrington, R. I.

THE EASIEST way to mark a queen is right on the comb where you find her, provided you can make her hold still! And you can do that by slipping a little cage over her, which presses into the comb to hold her firmly. The simplest cage is made of about ¼-inch wire screen, with points at the sides to sink into the comb. Or you can make a fancier cage, like the one shown. Press it gently until you have her just tight enough so she can't wiggle away, but not so tight as to hurt her. (Try a couple of drones for practice.) A quick touch of a match to her back, with a bit of fingernail polish or plastic fast-drying enamel, a quick-release, and she's marked. If she's a new queen from a mailing cage, you can mark her by slipping the cage over her on a generous piece of cotton wool.

Fertilizer Value of Bees

DR. WILLIAM C. WILSON
St. Charles, Mo.

THERE IS ONE asset in apiculture I have not seen acknowledged which is well worth more recognition. It is the fertilizer value of dead bees.

My guess is that the average colony produces nearly 10 pounds of bees per year. Perhaps half this weight is moisture, of no value, but the five pounds of moisture-free animal matter is a best quality of bone meal.

In a busy season the worker bee goes until her wings break or she becomes exhausted and may drop a mile from the hive, but perhaps more than half of them die in or near home. Two hundred pounds of bone meal from a yard of 40 colonies is not a trivial item.

The pasture where I had 100 colonies for a few years, was later plowed. When in small grain that area showed extra growth for years.

Aylmer J. Jones of Malden, Mass., the very capable chairman of the E.A.S. book booth, here closes a sale as Paul Cummins (right) of Penna. smiles at Al's "sales pitch".

E. A. S. Meets

THE FIFTH annual meeting of the Eastern Apicultural Society was attended by approximately 440 beekeepers; in fact, the meeting was such a success it was necessary to evacuate the original meeting room at Willard Straight Hall and move to a larger auditorium. There was standing room only at the banquet Saturday evening.

All who attended found the campus of Cornell University with its hills and beautiful scenery a perfect setting for the annual meeting. The Empire State Honey Producers' Association which was the host for this meeting, did everything possible to make the guests feel welcome and comfortable.

This year there were five bronze trophies to be awarded to the winners of the five honey classes. They were not revolving trophies and became the permanent property of the winners. The winner of the light trophy, donated by The A. I. Root Company, was Mr. Floyd Sandt of Easton, Pennsylvania. The amber honey trophy, donated by Dadant & Sons, was also won by Mr. Floyd Sandt. The comb honey and beeswax trophy was donated by Wax Workers, and Robert Barr of Port Matilda, Pennsylvania, won this one. The frame of bulk honey trophy, donated by Walter T. Kelley Company, was awarded to Mr. W. O. Hershey, Lancaster,

Dr. John B. Free, Rothamsted Experimental Station, England — for best results bees should not be moved into pollination area until the pollen source flowers.

Dr. G. F. Townsend, Ontario Agricultural College —Royal Jelly seems to prevent the start of cancer when injected into mice at the same time as live cancer cells.

Pennsylvania. The baked goods class trophy, donated by Finger Lakes Honey Producers' Cooperative was won by Mrs. Mary Louise Yates, Hartford, Connecticut.

A new part of this year's EAS meeting was the book booth which was run by Aylmer J. Jones. At the booth the members could purchase, sell and exchange old and new books and magazines related to beekeeping. New, currently in print books were offered for sale at list prices. Old, out of print books were sold at the suggested price of the owner or for the best offer. At one point of the program an auction was held to sell some of the rarer books. Magazine subscriptions were also taken.

Al Jones tells us the book booth was a big success and they sold over $300 in books and magazines in just the few hours they were open. The book booth

Dr. E. J. Dyce, Cornell Univ. — In spite of the hot summers in Australia many beekeepers move their colonies completely closed during the hours of darkness.

A view of part of the Cornell Museum. In the foreground are two antique extractors.

will, no doubt, be an important part of next year's EAS meeting and next year we hope there will be a bigger supply of books so the booth can stay open longer.

The meeting was officially called to order on Friday morning by President Herbert O. Boettcher and after the usual fomalities, Dr. C. L. Farrar, Head of the U.S.D.A. Bee Culture Laboratories was introduced to describe their specialized colonies used for queen rearing and queen storage. During the speech Dr. Farrar mentioned that more research is needed on queen substance. To aid in this research Dr. Butler, the discoverer of queen substance, has asked that beekeepers instead of discarding queens that must be replaced, remove their heads and send them to Dr. Butler, Bee Department, Rothamstead Experimental Station, Harpenden, England. They want to collect enough

Dr. C. L. Farrar, Head, USDA Bee Culture Laboratories—Dr. Butler of Rothamsted Experiment Station, Harpenden, England, needs thousands of queens to conduct queen substance research.

E.A.S. members take a glimpse at the rarest books in the famed Phillips' beekeeping library during the afternoon tour. They were displayed in glass cases.

queen substance in order to have it properly analyzed in the hopes that it might be synthetically produced. If this can be done economically, honey producers could use synthetic queen substance to control swarming and for numerous other purposes.

Next on the program was Dr. John B. Free who talked on bee research and advisory work in England. He gave more information about Dr. Butler's work on queen substance and also told of Dr. Bailey's work on the use of acetic acid vapor to control nosema disease. Dr. Free also talked about some of the most recent developments in his research on bee behavior. He has found that honeybees do a more thorough job of pollination if they are not moved into the pollination area until the crop flowers.

The afternoon session was taken up by a tour through the Finger Lakes Honey Producers' Coop. bottling plant, Cornell University Apicultural Library and Museum, and demonstrations in the University apiaries.

On Friday evening everyone relaxed and enjoyed themselves at a square dance.

Saturday's program was a full one starting with slides and a speech from C. C. Dadant on "The Hybrid Story".

Professor Robert S. Filmer of Rutgers University was the next speaker on the program and told of the problems that are involved in cranberry pollination. He is currently carrying on an investigation to discover why the New Jersey cranberry yields have not been as high as other regions of the country. He didn't feel it was entirely due to a lack of pollination.

Dr. M. V. Smith of the Ontario Agricultural College followed Professor Filmer and showed some beautiful color slides of queen rearing and emer-

(Continued on page 635)

Our Cover Photo

THIS MONTH'S cover picture may look like just another bee picture, but if you look closely you will notice these bees are attending a block of wood rather than a queen. That is because the block of wood has been impregnated with queen substance, a glandular secretion of the queen bee which is believed to be the most important single factor contributing to the social order of the colony. Dr. C. Verhegen Voogd of Holland sent the picture to Gleanings.

Honey Helps "Better Meals Build Better Families"

HARRIETT M. GRACE
Director, American Honey Institute
Madison 3, Wisconsin

EVERY HOMEMAKER knows how good honey is on pancakes, hot biscuits and French toast but have you used it to sweeten the morning cereal—or the coffee—or the milk for the children—or the grapefruit?

* * *

And for lunch have you ever used honey to soften peanut butter for sandwiches? Or to make cream cheese more creamy? Or to combine it in equal parts with butter for a delectable spread or to slip between halves of hot baking powder biscuits? Or have you used it as a topping for an ice cream sundae? Or as a salad dressing in combination with an equal amount of lemon or lime juice blended well?

* * *

And for dinner have you tried glazing ham or the vegetables, carrots, onions, beets or rutabagas? Or adding it to the whipped cream that tops the dessert?

These are but a few uses for honey, an appetizing and economical food, that helps "Better Meals Build Better Families".

In adapting a Better Meals Program in your home, you will find honey the ideal helper. To meet your family food problems, honey, a highly rated staple, offers you the advantages of new and varied ideas in food preparation.

Experienced homemakers know honey as a nutritious food. Its simple sugars provide quick energy. Honey contains some valuable vitamin C and important constituents of the vitamin B complex. Honey has small amounts of necessary minerals such as iron, copper, calcium, and phosphorous. It is impossible for harmful bacteria to grow in honey. Honey is truly a wholesome food for you to offer your family.

Honey makes every meal better. Honey appeals to all age groups and satisfies many individual tastes, because it comes in various forms and flavors and because it can be used "as is" or in food preparation. Through many kitchen-tested recipes for the use of honey, you, the homemaker, can carry out your Better Meals Program effectively.

Honey makes available to you homemakers an added advantage in being a practical food to buy. Honey is economical, fitted to all income levels. Requiring no refrigeration, honey can be bought in large, price-saving quantities to be stored simply and safely until used. Honey can be used in some way for every meal and for snacks. Honey is excellent for baking, cooking, canning and preserving. When used in baked goods, it prevents staling, thus promoting kitchen efficiency through quantity baking—a boon to a Better Meals Program.

Keep in mind these fundamental honey facts. Let honey help you in your desire for better meals.

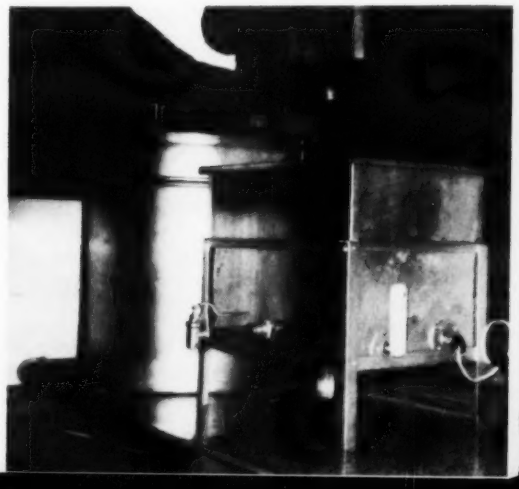
HEATING HONEY

W. H. FLEMING
Lapeer, Mich.

AFTER USING my five gallon boiler for several seasons it has been retired in favor of a new one.

The new one has a capacity of about 30 gallons and is heated with a 2,000 watt element from each end. Either element or both may be used. A reduction gear-box and motor may be seen above the tank. This turns at about 60 r.p.m., has three small paddles to slowly move the honey while heating. We have used it on two occasions and like it fine.

I have seen advertised a boiler of about the same capacity. This is the first such on the market having a water jacket up the sides like my homemade one,—at least that has come to my attention. It makes no mention of an agitator, however, which is very important. Also the heating element is too small and should be for 220 volt operation. Heating this amount of water and honey with a 1500 watt element on 110 volts is not practical in amount of time required or cost of operation. Bringing the temperature up to 150 degrees in the shortest length of time is important. This can be done in 60 minutes with my boiler and agitator. Also my electrical experience tells me that the built-in type of thermostat will allow too much variation between the on and off time and thus allow the temperature to vary too much. The mercury type thermostat will hold the variation to about five degrees.



Editor Jack Deyell sits at his desk in the Gleanings library surrounded by books on beekeeping, some dating back as early as 1634.

A Talk To Beekeepers

M. J. DEYELL

"Honey converted into bees will bring a higher price than honey sold on the market because those bees contribute to a much larger yield."
— Dr. C. L. Farrar
Head of Bee Culture Section,
U. S. Department of Agriculture.

IF PERCHANCE, there are some of you readers who claim that you have never made a mistake in beekeeping, you may not care to read the following article.

The late A. I. Root, in early issues of Gleanings, told about the mistakes he made, in order that others might avoid such mistakes. Readers of Gleanings admired Mr. Root for admitting that he made some mistakes.

Someone has said that the only people who do not make mistakes are the ones who do not try to do anything.

In this talk, which comes toward the close of another beekeeping season I want to mention about a dozen mistakes I have made, which I find are rather common among beekeepers. I

may have mentioned some of these mistakes in past talks but if I have they will bear repeating.

Mistakes I Have Made in Beekeeping

1. Working Bees at the Wrong Time

Bee books tell us that colonies of bees should be opened only during the warm part of the day while the bees are working well. While keeping bees commercially in the raspberry area of Michigan some years ago, I disregarded what I had read in the books and foolishly removed the cover from a very populous colony early one cool morning during a buckwheat honey flow. What possessed me to do such a thing, is beyond me. Bees are known to be cross during a buckwheat flow because the plant yields nectar early in the day and the flow shuts off soon after midday. Before opening the hive I lighted my smoker and put on my bee veil but didn't make sure that the veil was properly adjusted, nor was my bee smoker well lighted. When I cracked the cover of the hive with my hive tool the bees boiled out of the top opening, also the entrance, by the thousands and covered me from head to foot, crawling up under my bee veil and pant legs. Smoking them did no good. Since practically all of the bees were at home they attacked me in mass formation and gave me a warm reception.

I couldn't endure the stinging so I decided to make a hasty retreat to a clump of evergreens some little distance from the hive. I didn't run but I walked mighty fast. I crawled on my hands and knees around the base of the evergreen trees until most of the bees left.

That experience taught me a valuable lesson, — never to open a strong colony of bees early in the morning during the buckwheat honey flow.

2. Locationg Bees too Close to Buildings and Roads

It may be all right to locate a few bees, one to four or five hives, a little distance from dwelling houses and highways, especially if the hives are surrounded by trees or a high board fence, to force the bees to fly up and over, so they will not come in contact with people or animals nearby. A few beekeepers in cities and towns have been obliged to move their bees to the country because the bees caused trouble in the neighborhood.

Some years ago I bought about a dozen hives of bees located in an orchard a short distance from a dwelling house. It was a good location and it was possible to leave the bees there for a few years, since I was careful to manipulate the hives at the right time of day. For example, if I had some wet supers containing combs from which honey had been extracted, I wouldn't think of putting them on the hives during the day, especially during a dearth or partial dearth of nectar. I would put the supers on late in the evening over inner covers with center blocks removed, the outer covers being placed on top. During the night the bees would clean the honey out of the wet combs.

I worked the bees only when they were bringing in nectar and pollen and never during a dearth of nectar.

3. Leaving Caged Queens in the Sun

Sometimes when we have queen bees to introduce we may lay the cages down on a hive cover, in the sun, with the screens of the cages facing up. When queens are left in the sun for any length of time they are likely to be killed by the sun's rays. The wire screen should face down, but better still, carry the caged queens in some sort of a receptacle and place them in the shade until ready to be used.

4. Forgetting to Close the Honey House Door

A Michigan experience taught me a lesson along this line. The first year we kept bees there it seemed necessary to convert an old woodshed into a honey house. I did not learn just how bee-proof the building was until after the close of the raspberry and milkweed honey flow, during a short dearth of nectar. The main honey flow had shut off and the bees discovered that they could enter the honey house through some small openings I had failed to close, also through a rather defective screen door.

And what a time I had with those bees! I was extracting honey, or trying to, and every time I opened the door of the honey house, bees would pop in. In due time the buckwheat flow started and the bees gave up robbing.

5. Letting a Sixty Pound Can Run Over

Some years ago during the honey extracting season we hired a young chap to help out and his first job was to draw off 60-pound cans of honey from a large tank. I explained to him how easy it is to run a can of honey over on the floor. He seemed to think nothing like that could happen to him. I told him he would have to keep his eyes on the stream of honey until the can was filled. As he was filling the first can he gazed off into space, just at the wrong time and ran the honey all over the floor. Was his face red? I don't believe he let any more cans run over, at least during that day.

I'll have to confess I did something just as bad. During the years we have sold honey from our home. One morning, before going to work, I waited on a customer and supposed I had closed the spigot of the honey tank. That forenoon I had occasion to call my wife over the phone and said, "Hello, dearie". She replied, "You better call me dearie." I said, "Why, what has happened?" She said that when she went to the basement to get some honey for a customer, she found a layer of honey spread over the floor in front of the honey tank. I had failed to close the honey gate tightly. This has never happened since.

6. Dividing Colonies too Late in the Season

Some years ago a beginner beekeeper in this area told me that he planned to divide his single story colony of bees in the fall so that he would have two colonies of bees the following spring. I tried to discourage him on this idea, but to no avail. The following spring he wished he had taken my advice, as he lost his bees.

It is possible to divide very populous colonies in the spring, about fruit bloom time, giving the queenless divisions young laying queens. To do this, it is an advantage to winter each colony in a three story hive so that there will be an ample amount of honey for both divisions in the spring. With proper colony management it is possible to double the honey crop, by using this method but conditions and management have to be just right.

7. Failure to Give Supers in Time

Failure to put on supers in the spring, or prior to a major honey flow is likely to result in congestion in the hives, which in turn, causes swarming. It seems safe to say that carloads of honey are lost each year throughout the country because bees do not have sufficient comb space for the storage and ripening of nectar into honey. It seems advisable to err on the side of safety and have a few too many supers, rather than too few. It is amazing how quickly populous colonies will fill supers when conditions are favorable for nectar secretion.

8. Leaving Small Holes in Supers Above Bee Escapes

This seems to be a common error. I have done this more than once. When small openings are left between supers the bees are sure to find them and when it is time to remove the supers of honey the bees in the yard will have stolen it. The only consolation is that the honey is somewhere in the apiary.

9. Putting Out Wet Combs to Get Cleaned Up

The first year I kept bees in Michigan I had 200 colonies in one apiary, the home yard. I had a considerable amount of supers containing combs from which honey had been extracted, in the basement of my dwelling house. Some beekeeper told me that I should pile the supers about six high, a little distance from the apiary, so that the bees would clean them up. I did this, between the summer and fall honey flows, during a dearth of nectar. The supers of combs were set out about five o'clock in the afternoon. It didn't take the bees long to find the combs, in fact, within an hour clouds of bees were hovering over the piles of supers. I can see them yet.

Well, the bees cleaned up the combs all right but they also dug holes into the midribs of some of the virgin combs. That year I did not have any seasoned drawn combs to put on. I had to use supers containing frames with full sheets of foundation. I doubt if the bees would have done so much damage to older drawn combs as they did to the virgin combs.

This year we tried letting the bees clean up some wet combs piled up near a 30 colony apiary. This was done

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This apiary

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Attractive apiary of Gordon Sherwood of South Carolina. This apiary is near water and away from roads and buildings.

during a light honey flow and we left only one small opening in each pile of wet supers for the bees to enter.

10. Going to Outyard without Complete Bee Handling Equipment

This may happen frequently especially if there are two or three men in the gang. Years ago when I managed around a thousand hives of bees for The Root Company and we shipped packages of bees for customers during June, I had three men. Sometimes when they got to the apiary they would discover that someone had left his smoker or bee veil at home, or, perhaps the scale for weighing the package of bees was missing. To overcome this, I insisted that we have a list of items needed, posted on the apiary house door. One man would call off the items needed and another man would check to see that these items were in the truck. This procedure saved a lot of valuable time.

A few years ago I forgot my bee smoker when leaving for one of my outyards. I did have my bee veil. I worked that day without a smoker and found that I could get along fairly well, if I took it slowly and handled the combs carefully.

11. Not Enough Winter Stores

This seems to be the most common mistake among beekeepers. I can well remember the first year we were in Michigan when I checked through single story brood chambers during August and removed some combs of honey from the brood chambers, substituting empty combs, hoping that the bees would fill them during the fall flow. The bees were wintered in a cellar and quite a number of the colonies were short on stores the following spring. Had I left more honey in the brood chambers that fall, I would have secured a larger crop of honey the following season.

The food chamber hive properly used helps to solve the food problem for bees. The food chamber needs to be well filled, in addition to some honey in the lower chamber. The winter cluster should have plenty of honey above during the entire winter.

The statement by Dr. Farrar at the beginning of this talk is worthy of serious consideration. It takes honey to produce bees.

Most of us learn the hard way, by the trial and error method. That is one way to learn.

Most of us have made mistakes in beekeeping but we can, and should, make our mistakes stepping stones to success.

NEWS and EVENTS

John Root (right) awards The A. I. Root Co. trophy for the best light honey to Floyd Sandt of Easton, Pennsylvania.

Mary Louise Yates newly elected secretary of E.A.S. receives the Finger Lakes Honey Producers' Co-op trophy for the best baked goods.

HONEY SHOW
Cornell University
Ithaca, New York

Pennsylvania men took most of the honors, but a Connecticut woman "copped" the blue ribbon for her honey orange nut bread in the **third annual Honey Show** at Cornell University.

The show, held in conjuction with the Annual meeting of the Eastern Apicultural Society, was viewed by some 500 amateur and professional beekeepers from the U.S. and Canada. About 70 persons entered the contest.

Trophies for the best entries of light honey and amber honey went to Floyd Sandt of 1500 Valley Road, Easton, Pa. Donor of the awards were, respectively, The A. I. Root Co. of Medina, Ohio, and Dadant and Sons of Hamilton, Ill.

Robert Barr of Port Matilda, Pa., took the trophy for beeswax, donated by Wax Workers, Inc. of Ithaca.

The frame of bulk honey trophy went to W. O. Hershey of North Pine St., Lancaster, Pa., and was donated by The Walter T. Kelley Co., Clarkson, Ky. All trophy donors manufacture complete bee suppllies, including wax products.

Winner in the baked goods class of the contest was Mrs. M. Louise Yates of 11 Chapman St., Hartford, Conn. Her trophy was awarded by the Finger Lakes Honey Producers' Cooperative of Groton, N. Y.

Here's Mrs. Yates' prize-winning bread recipe:

Ingredients — 2 tbs. shortening, 1 cup honey, 1 egg, 1½ tbs. grated orange peel, 2½ cups flour, ½ tsp. soda, ½ tsp. salt, 2½ tsp. baking powder, ¾ cup orange juice, and ¾ cup chopped nut meats.

Cream the shortening and honey. Add egg (well beaten) and orange peel. Sift flour before measuring and mix dry ingredients. Add dry ingredients and orange juice alternately to shortening and honey. Add nut meats. Pour into a greased pan (5 x 9 inches) and bake at 325 degrees for 70 minutes. If a glass loaf pan is used, bake at 300 degrees.

FLORIDA
State Beekeepers' Association
Tampa, Florida
October 22-23, 1959

The Florida State Beekeepers' Association will hold its annual meeting at the Hillsboro Hotel, in Tampa, Florida, on October 22-23rd. Reservations should be made by writing to the hotel. Anyone interested in bees or beekeeping will be welcomed.—F. A. Robinson, Secretary.

CANADIAN
Floor Price on Honey Increased

We note from July-August, 1959, Federation News Letter that the Canadian government has increased the floor price of white honey to 13½ cents a pound, effective July 1. The old floor price was 12 cents.

CONNECTICUT
Beekeepers' Association
Hartford, Conn.
October 24, 1959

The Connecticut Beekeepers' Association will hold its fall meeting October 24, 1959, at the Y.M.C.A., Hartford, Conn., located at the corner of Jewel and Pearl Streets. The meeting time is 10 A.M. The speaker for the day will be Mr. Eugene Keyarts, Madison, Conn. The talk will be about bee hunting and the life of the bee in the hive. A number of colored slides are shown to illustrate the narration. Lunch will be in the Y.M.C.A. cafeteria. A welcome is extended to beekeepers and visitors to attend this meeting as the pictures are wonderful. —Philemon J. Hewitt, Jr.

(Continued on page 638)

Obituaries

LEON C. HALL

LEON C. HALL passed away very suddenly on June 5, of a coronary after a short illness. He was well known by beekeepers in the state of Maine. He was President of the Maine State Beekeepers' Association, also a member of the Penguis Association and the Eastern Apicultural Society. He was part-time bee inspector in Maine, making friends everywhere and everyone who knew him liked him. Many a time he would let his own work go to help someone else. His death was a shock to everyone.

MRS. MATT ARENS

MRS. MATT ARENS of Kellogg, Minnesota, passed away July 20 of a heart attack while working in the honey house. Sunday, July 19, she and her husband had attended the S.E. Minnesota Beekeepers' Association summer picnic at St. Charles, Minn., visiting with the area beekeepers and appearing in excellent health.

The former Miss Emma Schmidt was born Oct. 20, 1912 at Frontenac, Minn., the daughter of Mr. and Mrs. Edward Schmidt. She married Matt Arens, April 19, 1954, at St. Agnes Church, Kellogg, Minn. They have run approximately 200 colonies of bees and she was Secretary of the S.E. Minnesota Beekeepers' Association from 1945 to 1955, also being one of Minnesota's most respected State Bee Inspectors for many years. She served as Assistant Superintendent of the Honey Display and Honey Cooking Department at the Minnesota State Fair for many years.

Minnesota beekeepers will miss her cheerful greeting and sunny smile as well as her sound advice in disease and beekeeping problems.

FRED O. MILLER

FRED O. MILLER of Louisville, Ky., passed on recently. Mr. Miller was very active in the Kentucky Beekeepers' Association. He was superintendent of Bees and Honey in the State Fair for a number of years. He also worked with young people in 4-H, F.F.A. and Boy Scouts and will be greatly missed.

Requeening Pays Off

There are still many beekeepers who believe that because a queen produces well one season, she will again. There can be nothing further from the truth. Second season queens are more likely to supersede right at the time you need them than a young laying queen. To avoid swarming, do-nothing hives, and winter loss due to queenlessness, requeen regularly with young laying queens. Return mail shipments summer and fall.

STARLINES and MIDNITES

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$1.30	$1.20	$1.00 ea.

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Hardy Northern Italians
Queens ..... $1.25 each
August to November
WHITE PINE BEE FARMS
ROCKTON, PA. BOX 810

LITTLE'S
ITALIAN QUEENS

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25 to 99	1.35
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Until June 15
ROYAL JELLY
Bulk & Capsules Write for Prices
LITTLE'S APIARIES
Shelbyville, Tennessee

Asked & Ans

Daughter Queen Different from the Mother Queen

Q. Last fall I requeened an Italian colony with a Caucasian queen. They wintered well and built up very nicely in the spring. In July the queen swarmed and set up housekeeping in the same yard. When I discovered the colony had swarmed I looked for cells in the old hive and found a virgin queen of different color from the old Caucasian queen, not Italian and far from Caucasian. The offspring of this new queen has the same color as the queen. Why has the new queen a different color from the old one while all the rest of the colony that is left from the old queen are all Caucasians, drones included?

A. We have read with interest your letter concerning your recent experience with queens. According to what we know, or think we know, about races of bees the Caucasian virgin queen you found in the hive, from which a swarm of Caucasian bees had issued, should have been the same type of queen as her mother, especially since the progeny of the mother queen was uniformly marked indicating Caucasian characteristics.

Could it be possible that this young queen that you saw drifted into the hive from another colony? This occasionally happens. However, if you do not have any Caucasian colonies in your yard, other than the one to which you introduced the Caucasian queen, this drifting would hardly seem possible. Of course, there may be some other Caucasian colonies in your neighborhood. We shall be glad to hear from you again in the event that you come up with a solution to your question.

Removing Beeswax from Wood Floors and Cement

Q. I would like to know about taking beeswax off plastic supers, linoleum, wood floors, and cement.

A. We do not know what material is used in the manufacture of your plastic supers. Most of the solvents that can be used to dissolve beeswax will also dissolve plastic unless it is a plastic such as used for radio cabinets or telephones.

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& Answered

For the linoleum, wood floors and cement we think the most satisfactory and safest solvent will be common kerosene. Please understand if your linoleum floors are polished the kerosene which removes the beeswax will also remove the polish.

For the wood or cement floors, sprinkle kerosene on the floor, allow it to stand for 15 or 20 minutes and then wipe off the kerosene and you will find that all except the thickest chunks of beeswax will come off with the kerosene.

Long-tongued Bees for Red Clover

Q. Are there not what are called long-tongued Italian bees especially bred for working on red clover? We have a lot of red clover growing here in the midwest.

A. There is a difference in the length of the tongue of different strains of Italian bees and no doubt the longer-tongued strain are able to secure more nectar from red clover than those having shorter tongues. Some seasons almost any good strain of Italian bees gather considerable from red clover, possibly because of shorter tubes in the clover blossoms or because of more abundant nectar secretion making the nectar stand higher in the tubes which would permit the bees to reach a portion of it.

Length of Brood Rearing Period

Q. Do bees breed all the year?

A. In some localities where there are various honey flows throughout the year there is more or less brood rearing going on nearly the whole year, though even in the tropics normal colonies usually suspend brood rearing for at least a few weeks when there is a long dearth of nectar.

In most localities the queen slows up on egg laying after the main honey flow is over, and, by early fall, has almost or entirely ceased. In the north brood rearing usually ceases about October 1, and is not resumed until February or March, provided the bees are wintering well.

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EXTRACTED CLOVER HONEY — Extra fine quality. EARL ALEXANDER, RR 2, RICHMOND, IND.

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WANTED—All grades of extracted honey. Send sample and price. DEER CREEK HONEY FARMS, LONDON, OHIO.

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WANTED—White extracted or comb honey. Send sample. MILLERSPORT HONEY CO., MILLERSPORT, OHIO.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. THE A. I. ROOT COMPANY, MEDINA, OHIO; COUNCIL BLUFFS, IOWA; SAN ANTONIO, TEXAS.

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PRODUCERS OR PACKERS interested in packing honeycomb sections for export to England please write full details, quantity, weight, price, etc., to RATCLIFFE BROS. (Honey) Ltd., Great Horton, BRADFORD 7, YORKSHIRE, ENGLAND.

WANTED—comb, chunk, and extracted honey. Send sample and price. RONALD CULP, CIRCLEVILLE, OHIO.

WANTED—All grades extracted and comb honey. WILLIAM MARCH, R.D. 3, Box 27, MANTUA, OHIO.

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CARNIOLAN and CAUCASIAN Bees for 1960. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00. 3-pound bees with queen, $5.00. LEWIS & TILLERY BEE CO., RT. 3, BOX 251, DU 2-8371, GREENVILLE, ALABAMA.

IT PAYS TO REQUEEN. Old queens in your hives cost a lot through lost production. Young queens pay for themselves and give a good profit besides. One super of honey difference in favor of the young queen is not too much to expect in most any location. We can furnish the best, select, young Italian laying queens now until November at $1.00 each; 10, $9.00; 25, $20.00. Air Mail Postpaid. Prompt shipment. No disease. H. C. SHORT, FITZPATRICK, ALA.

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SUPER STRENGTH 100 mg. Royal Jelly capsules in bottles of 100 for $10.00. PRAIRIE VIEW HONEY CO., 12303 Twelfth St., DETROIT 6, MICH.

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E.A.S. MEETS

(Continued from page 621)

gence. He also showed some interesting work done on royal jelly.

Toward the end of the morning program, time was running short and Dr. E. J. Dyce of Cornell University had to rush through his speech and slides on beekeeping in Australia. Dr. Dyce mentioned that in spite of the heat during the Australian summer the large commercial beekeepers are able to move colonies stacked up tight with their entrances completely closed during the night and early morning hours.

At the business meeting before lunch Paul Holcombe of New Jersey was elected President and it was decided that next year's EAS meeting will be held at Rutgers University in New Jersey. Frank Peterson was elected Vice-President and Mary Louise Yates will be the new Secretary-Treasurer.

To begin the afternoon session Professor G. F. Townsend told of the progress made in their Ontario research program. Probably the most interesting part of Dr. Townsend's talk centered around his discussion of the recently announced fact that when royal jelly and live cancer cells are injected into laboratory mice simultaneously they do not get cancer while other mice injected with just live cancer cells die rather quickly from cancer. He also reviewed some of Dr. Shuel's work on the relationship of fertilizers to nectar secretion in which he found sun and the plant strain were the biggest factors in nectar secretion.

Following Dr. Townsend was John Root of The A. I. Root Company who spoke on beeswax and its uses.

Next Dr. J. W. White of the U.S.D.A. gave his annual report on the progress of his honey research.

That evening at the banquet, Mary Geisler Phillips, the wife of the famed late Dr. Phillips, charmed those who attended with her wit. Earlier in the session she was kept very busy autographing copies of her book "The Makers of Honey".

After the meeting was over everyone felt it had been quite successful and were already looking forward to next year's meeting in New Jersey.

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70¢ each—limited quantity for October. We are offering an excellent opportunity for a partnership for the right young man, no capital needed, or will make complete sale. Write for details.
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A few queens still available.
Starlines **$1.25**
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ITALIANS CAUCASIANS
Nice large queens, 75¢ each
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Send your order of 1 or 1,000.
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1-24	$1.30 ea.	$1.00 ea.
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Highest Prices Paid

Carload Lots Only

Mail samples for best prices in all grades

Billy Bee Honey Products

12 CARLAW AVE. TORONTO, CANADA

GETTING RETAILERS TO SELL MORE HONEY FOR YOU

(Continued from page 589)

c) Sponsor a contest in which customers who wish to participate must return to you some easily detached portion of the label from one of your honey containers or in any other way prove that they have purchased some of your honey. A prize to the person who can write the largest number of words using the letters in your brand name is an example of good honey marketing contests.

d) Some retailers like to have suppliers stage demonstrations in their stores. Small quantities of your honey in individual paper cups can be handed to customers along with a small wood paddle with which to taste the honey. At the same time you can get in some good "plugs" for your particular brand and for honey as a food. A large-scale demonstration could also be set up on a store parking lot.

e) With the understanding of the retailers in the area, help them build a consumer demand for your honey by selling house-to-house and supplying each customer with the names of stores from which she can get more of your honey. In this sort of venture, perhaps it would be best to sell only your smallest size while on your house-to-house route. This will leave more to be sold by the retailers for whom you are trying to build trade.

f) Send your retailer customer a nice package at Christmas or, better, on his birthday, including at least one each of your various sizes of each item.

g) Give regular enough delivery services that shelf stock never gets too old.

h) Be prepared to supply honey throughout the year. Your retailer customer does not store any food products over a long period, but he wants some of them on hand at all times.

—ITALIAN QUEENS—

Good queens are always good crop insurance. For your summer and fall queen needs we offer you an outstanding strain of Three Band Italians and can furnish select young laying queens promptly on receipt of your order. Caged fresh from our yards and rushed to you Prepaid Air Mail.

— PRICES —

1-9 .... $1.00 ea. 10-49 .... 90¢ ea. 50 up .... 80¢ ea.

Quality Does Not Cost — It Pays

THE WILBANKS APIARIES Phone 239 Claxton, Georgia

TOO LATE TO CLASSIFY

FOR SALE: 1,000 two story, 10 frame hives with or without supers. Also 2,600 hives in South Texas, all or part. Will make nucs or sell brood with bees next spring. CHESTER McCLINTOCK, ALAMOSA, COLORADO.

300 10-frame 2½ story bees — yard, $15 each. W. A. WILEY, 65 Commerce St., WEST POINT, MISS.

DISSOLVING MY BUSINESS at once. Everything for sale, including 220 colonies bees, 10 frames. State inspected. Extra supers and all equipment. MRS. FRED LEININGER, DELPHOS, OHIO.

NOW

is a good time to requeen or make increase with high producing Carniolan or Caucasian queens. A pleasure to work with these gentlest of all bees. **Queens, $1.45 each in U.S.; $2.50 each, foreign.** Safe arrival in U.S. only.

W. D. REAMS
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Many of our readers wish they knew how to buy from you. The most inexpensive way to let them know is to advertise in Gleanings. For over 85 years Gleanings has been taking the work out of selling.

Be sure your "selling story" is in the next issue. Send for an advertiser's rate card today.

Gleanings in Bee Culture
Medina, Ohio

ITALIAN....."GULF BREEZE"....QUEENS
This is your last chance to order your queens for 1959.
Be sure your hives have good queens for the winter.
PRICES: 1-24 ....90¢ each 25-100 ....80¢ each 100 up ....75¢ each
Clipping and painting 5¢ each.
BESSONET BEE COMPANY Donaldsonville, La.

Taylor's AEROSOL....
HIVE-* BOMB
BEE CALM with TAYLOR'S HIVE-BOMB
The Push-Button Bee Smoker
$1.29 plus freight at your dealers
- No sparks
- No heat
- No fire hazard
- A puff's enough

***trademark, Stewart Taylor, Camargo, Ill.**

No More Queens Until 1960.
We closed our 1959 queen production earlier this fall with view of more fully preparing for Package Bees and Queens in 1960.
Thanks to our customers for making 1959 a successful year for us.
Reg. U. S. Pat. Off.
GARON BEE COMPANY Donaldsonville, La.

NEWS AND EVENTS

(Continued from page 629)

MASSACHUSETTS
Middlesex County Beekeepers' Assoc.
October 24, 1959
Waltham, Mass.

The Middlesex Co. Beekeepers' Association will hold its first indoor meeting and annual banquet at the Waltham Field Station, Waltham, Mass., on October 24, 1959 at 6:30, with a Honey and Wax Contest. All reservations for the roast beef dinner with banana fritters must be made in advance to Mr. Richard W. Corrigan, 946 Main Street, Reading, Mass. Al Baptiste, Chairman of the Honey and Wax Contest will award prizes by classes.—M. Southwick, Corres. Sec.

NEW JERSEY
Beekeepers' Association
Columbus, N. J.
October 10, 1959

The annual meeting of New Jersey Beekeepers' Association will be held October 10 at Grange Hall, Columbus, N. J. The principal speaker will be Alfred W. McCann, an authority on foods and an ardent booster for honey. A cordial invitation to all.

PENNSYLVANIA
Beekeepers' Association
Cook's Forest
August 22, 1959

The summer meeting of the Penna. State Beekeepers' Association was held at Cook's Forest on August 22. A record crowd of beekeeping families gathered before noon to enjoy a picnic in one of the large shelter houses.

The host associations provided organ music during the meal and as background music during the crowning of the 1960 Honey Queen, Miss Shirley Frank, by the 1959 Queen, Miss Edith Mae Koncle. Miss Frank will be on hand at the winter meeting at Harrisburg in January and will compete at the National meeting in 1960.

Dr. Roger Morse of Cornell University was the featured speaker. Also appearing on the program were Prof. E. J. Anderson and W. W. Clarke of Penna. State University. Out-of-state visitors, John Buchanan of Medina, Ohio, and Paul Cutts of Chipley, Florida spoke briefly.

Paul Cummins reported to the group on the fine work he has been heading up in the honey booth at the State Farm Show.

COFFEE AT THREE

(Continued on page 613)

atin. Chill until mixture begins to set. Beat egg whites untiil stiff but not dry; fold in remaining honey a tablespoonful at a time. Fold in custard mixture together with flavorings. Pour into 8 x 8-inch pan which has been rinsed with cold water. Crush cereal slightly; mix with nutmeats and melted butter. Sprinkle over custard. Chill until firm. Cut into squares to serve. Yield: 9 2½-inch squares.

Honey Coffee Cake

One-fourth cup warm, not hot, water, 1 package dry yeast, ½ cup lukewarm milk, ¼ cup honey, ½ teaspoon salt, 1 egg, beaten, ¼ cup soft butter, and 4½ to 5 cups sifted flour.

Place water in mixing bowl, add yeast, stirring to dissolve. Stir in milk, honey, salt and egg; then the soft butter and about ½ of the flour. Mix with spoon until smooth. Add enough of the remaining flour to handle easily. Turn onto lightly floured board. Knead until smooth and elastic, about 5 minutes. Place in greased bowl, greasing top lightly and cover with damp cloth. Let rise until double in bulk, about 1½ hours. Punch down; let rise until almost double in bulk; about 30 minutes. Cut dough into pieces about the size of a walnut. Shape into balls. Have ready ½ cup melted butter, ¾ cup sugar, 1 teaspoon cinnamon and ½ cup finely chopped nuts. Roll pieces of dough in melted butter then in sugar cinnamon mixture. Place layer of balls in well-greased 9-inch tube pan which has been lined with waxed paper. Balls should barely touch each other. Add another layer of balls. Let rise about 45 minutes. Bake in moderate oven, 375°F. 35 to 40 minutes. Loosen from pan. Invert pan so butter sugar mixture runs down over cake.

J. E. WING & SONS
47 Years Continuous Service
Italian Package Bees and Queens
Our Specialty
Knights Landing, Calif.

California Caucasians

Gentle and industrious Caucasian queens. Hastings strain used for breeders. Bred for greater honey production. Gentleness, highly prolific. No excessive propolis. Swarm control and color. Some package bees. 10% books your order — balance two weeks prior to shipment. Air Mail. We do not clip or mark.

Summer and Fall Queens

1 to 24 ..... $1.30 25 to 99 ..... $1.15 100 & up $1.00

QUALITY AND SERVICE DOESN'T COST — IT PAYS

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QUEENS
ITALIANS or CAUCASIANS

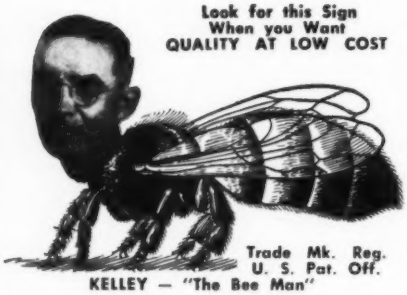
LAST CHANCE for those good STOVER queens which you will need in those colonies next spring.
You will certainly see the difference in the way they winter and build up into good colonies.

PRICES

In lots of
1 - 24 ..... $1.00
25 - 499 ..... .85
Tested Queens ..... 2.00 each

Queens Postpaid—Airmailed—Clipped
No Extra Cost — 10¢ each extra for marking.

THE STOVER APIARIES Mayhew, Miss.



KELLEY — "The Bee Man"

KELLEY'S

3-Banded Italian Queens

KELLEY'S QUEENS by the thousand are available now. If you are in a rush count on us for quick shipment by return air mail.

1 to 4	$1.00 by prepaid air mail
5 to 25	.90 " " " "
25 to 99	.85 " " " "
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Clarkson, Ky.

Index to Display Advertisers

Aeppler Co., C. W. 633
American Bee Journal 635
Australasian Beekeeper 634
Australian Bee Journal 636
Baker's Apiaries 633
Bessonet Bee Co. 638
Billy Bee Honey Products 636
Blue Bonnet Apiaries 580
British Bee Journal 634
Burleson & Son, T. W. 580
Calvert Apiaries 635
Canadian Bee Journal 634
Cary Corp., M. R. 578
Chrysler & Son, W. A. 578
Conneaut Can Co. 631
Dadant & Sons, Inc. ..... Inside front cover
Garon Bee Co. 638
Harper, Carlus T. 633
Hutchison Mfg. Co. 580
Jackson Apiaries 635
Jensen's Apiaries 635
Jepson Co., H. H. 580
Jones & Son, F. W. 580
Kelley Co., The Walter T. 582, 640
Leverette Apiaries, Walter D. 634
Little's Apiaries 630
Lotz Co., August 580
Mitchell's Apiaries 635
Myers Craft Mfg. Co. 580
New Zealand Beekeeper 635
Norman Bee Co. 633
Plant, W. E. 633
Prairie View Honey Co. 578
Reams, W. D. 637
Root Co. ..... Outside back cover
Rossman Apiaries 636
Shackelford, John S. 636
Smith & Son, Geo. E. 631
Stoller Honey Farms 578
Stover Apiaries 639
Strachan, Don J. 639
Taylor, Stewart 638
Walker, Eugene 631
Wally's Bee Enterprise, Inc. Inside back cover, 582
Wax Workers, Inc. 634
Weaver & Sons, Howard 631
White Pine Bee Farms 630
Wilbanks Apiaries 637
Williams Bros. Mfg. Co. 578
Wing & Son, J. E. 639
Woodman Co., A. G. 582
York Bee Co. 630